

Rhode Island DEM/Division of Agriculture

Specialty Crop Block Grant Program – Farm Bill

Agreement Number: 12-25-B-0947

Final Performance Report

Submitted: May 10, 2012

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Final Report

Radio Ad Grant
RI Farm Bureau
12-25-B-0947

Project Summary and Project Approach

In 2009 the RI Division of Agriculture launched the Get Fresh Buy Local campaign. RI Farm Bureau decided to support this program by having a radio ad campaign. A grant for the program was written and approved by USDA in 2009 for ads for 2010 and 2011. Ads were developed by the RI Farm Bureau staff in 2010 and approved by the RI Farm Bureau Board of Directors. The executive director of the RI Farm Bureau was the voice of the ads.

Ads were done on WPRO, the most popular talk radio station in RI, WHJJ the second most popular talk station in RI, and WCTK, a country music station. We sponsored a Dining Out With Bruce Newberry show which is broadcast on multiple stations and RI Hope, a non-profit show that promotes RI activities. The target we established was to increase business by 10%.

The purpose of the Specialty Crop grants is to enhance production and sale of Specialty Crops such as fresh fruits and vegetables and nursery crops. The purpose of the ads was to promote the Get Fresh Buy Local campaign and encourage people to buy local produce and plants instead of out of state produce and plants. The need addressed is to simply sell more local Specialty Crops.

Here is the Ad and “Slam” we had.

30 Second Ad

I got fresh in RI and you can too. Get Fresh! Buy Local! Buy all your produce, meat, shellfish, flowers, dairy and native processed foods at your local farmers markets and local farm stands. Feel secure that your food is not only fresh but safe. Save open space by keeping our local farmers in business. Get Fresh. Buy Local. For more information about local farms call the RI Farm Bureau at 647-3570, or go to our web site, rifb.org. This message is brought to you by the RI Farm Bureau through a grant from USDA and the RI Division of ag.

Slam

This show is brought to you by the RI Farm Bureau who urges you to support local farmers by Getting Fresh, Buy Local.

It should be noted that the ad mentions crops that are not specialty crops. However only three words in the ad refer to those crops which is less than 3% of the words in the ad. We received \$5,000 from USDA last year and Farm Bureau provided \$425 which is more than 8% of the budget. Also the other crops were not mentioned in the “Slam” ad and were not specifically mentioned on the Bruce Newberry show or the RI Hope show. For 2011 the three words were removed.

Goals and Outcomes Achieved

After the ads ran for a few weeks the executive director of RI Farm Bureau interviewed farmers as to how the ad was working for them. Many farmers thanked the director and said that many customers had mentioned the ad. But farmers were reluctant to say if the ads had increased their business and by how much. Many of our partner organizations such as Farm Fresh RI, Kids First, conservations districts, complimented us on the ads.

We received a Public Relations Award from American Farm Bureau, primarily for our work with this program.

In 2011 the ads ran on the same stations as last year and an additional station with Citadel, WWLI, which is a station targeted more toward youth.

We broadcasted the following ad on WWLI starting in July which caters to a younger demographic.

Tired of commercials that are all about sex? Not this one; we can help you get fresh, and find something with a little skin on it. Check out your local farmers market and road side stands. They’ve got fresh corn, fuzzy peaches...all sorts of fruits and vegetables, preservative free. Feed your family the freshest you can buy. Get Fresh and Buy Local. Visit your local farm stand or farmers market today. For more information about local farms contact the RI farm Bureau at 647-3570 or go to our web site rifb.org. This message is brought to you by the RI Farm Bureau through a grant from USDA and the RI Division of Ag.

We will run the same ad we ran last year on the other stations (minus the non-specialty crops).

Funding Expended

Here is how the funds received last year were spent.

Citadel (WPRO)	\$3,075
WHJJ	770
WCTK	780
Bruce Newberry	200
RI Hope	100
Admin, clerical etc	500
Total Funds Spent	\$5,425

\$5,000 was received from USDA.

Here is how the funds for 2011 were spent.

Citadel (WPRO)	\$3,525
WHJJ	770
WCTK	780
Bruce Newberry	200
RI Hope	100
Admin, clerical etc	500
Total Funds Spent	\$5,875

Received from USDA \$5,000.

Total funds spent \$11,300 of which \$10,300 was directly for ads.

Total received from USDA \$10,000.

New England Agricultural Statistics:

According to New England Agricultural Statistics (USDA) the cash receipts from 2010 for potatoes, sweet corn, apples, and other fruit, increased by over 20% from 2009 receipts for the same crops. (NASS does not measure receipts for other fruits and vegetables.) Receipts for livestock were up by only 1%. Receipts for hay were up by only 3%. Receipts for nursery and greenhouse industry declined by 6%.

Statistics for 2011 will not be available until 2012. However those figures may not reflect the success of the ads due to the fact of a hurricane that shortened the season for many farmers.

Conclusion: There were no radio ads in 2009 promoting the Get Fresh Buy Local campaign. But there were ads in 2010. But they were ads primarily for crops sold at Farmer's Markets and roadside stands and not meat, nursery crops or hay (some markets sell meat but most don't. The ads encouraged people to go to local farm stands and Farmer's Markets). The goal of the ads was to increase business by 10%. Cash receipts for Specialty Crops that are measured by USDA were up by a range of 8% for apples to 36% for sweet corn. The average increase was 20%. For the crops that were not advertised, their increases were nowhere near the increases of Specialty Crops and the nursery industry actually declined. It appears the ads were helpful.

Farmer Survey

In the fall of 2011 a survey was sent to 489 farmers about the radio ads. The survey asked if the farmer had heard the ad. Was the ad done well? Did the ad increase their business? How much did it increase their business < 10% About 10% > 10%. Should Farm Bureau continue to do ads?

Fifty-five farmers responded to the survey. Of those 21 heard the ad and 19 said the ad was done well. Nine farmers said the ads increased their business, 3 said greater than 10%, 2 said less than 10% and 2 said about 10%. Of the total of 55 farmers who responded to the ad, 39 said the Farm Bureau should continue to do ads.

Conclusion: The ads did not increase business by 10% or more for most of the farmers who responded to the ad. But of the 21 who heard the ad, 43% said they felt their business increased and 90% felt more ads should be done. Among those who did not hear the ad 59% felt Farm Bureau should do more ads.

Consumer Survey

In the fall of 2011 an email survey was sent to about 200 people. The survey asked if they heard the ads. Did the ad inspire them to "Buy Local"? Were the ads excellent, good or poor?

Seventeen people responded to the survey. Of those 13 said they were inspired to Buy Local. Twelve said the ads were good to excellent.

Conclusion: The ads appear to have inspired people to Buy Local.

Lessons Learned

It is difficult to measure the success of any ad campaign. Perhaps we should have offered a discount to anyone who said they heard the ad, but even then it would have been difficult to collect that data. However, with the data we did collect, agricultural statistics do show that Specialty Crops that were measured had a significant increase in sales from 2009 to 2010 (20%). While we cannot say definitively that it was the radio ads that increased the business, we do feel that the entire Get Fresh Buy Local campaign worked and the radio ads were part of that campaign. In our Farmer Survey 43% of the farmers who heard the ad said they felt their business increased as a result of the ad, 24 % said by 10% or more. Ninety percent of the farmers who heard the ad said we should do more and 59% who did not hear the ad said we should do more ads. In the consumer survey 76% of the people who heard the ad said they were inspired to Buy Local. Our overall conclusion is that the ads were a success.

Contact Person

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African Alliance Final Performance Report 12-25-B-0947

Project Title Farming Project that benefits African Refugees

Project Summary

- ❑ Provide a background for the initial purpose of the project, which includes the specific issue, problem, or need that was addressed by this project.

The purpose of this grant is to support the efforts of the African Alliance of Rhode Island (AARI) to further develop a mutual assistance farming project that benefits African refugees and immigrants living in Rhode Island.

The project provides access to locally grown produce that is part of a traditional African diet. Because most of the gardeners are very low income and cannot afford to buy the specialty foods (usually frozen and imported from other parts of the country) offered in the local African market.

- ❑ Establish the motivation for this project by presenting the importance and timeliness of the project.

The longer African immigrants are in America the more their health declines, because they eat fast and processed foods. By growing their own native vegetables African immigrants and refugees stand a better chance of maintaining good health.

The project provides access to locally grown produce that is part of a traditional African diet. Because most of the gardeners are very low income and cannot afford to buy the specialty foods (usually frozen and imported from other parts of the country) offered in the local African market.

- ❑ If the project was built on a previously funded project with SCBGP or SCBGP-FB, describe how this project complimented and enhanced previously completed work.
N/A

Project Approach

- ❑ Briefly summarize activities performed and tasks performed during the grant period. Whenever possible, describe the work accomplished in both quantitative and qualitative terms. Include the significant results, accomplishments, conclusions and recommendations. Include favorable or unusual developments.

The AARI has a community garden at 32 Diamond St Providence with 24 garden beds with a variety of American and African vegetables. Our farmers consist of neighborhood youth, African refugees and immigrants and members of the AARI.

All farmers participated in the building of garden beds from constructing the frame to filling the lined bed with soil and planting seeds.

Irrigation: This became one of the major challenge for us. We decided the best solution is to install rain barrels for irrigation. Home Depot supported us with funding that paid for the material to build a shed for storage and down spout fed into the rain barrel.

Over the summer of 2010, the Black Contractors Association of Rhode Island (BCARI) taught basic residential carpentry training to a group of students. Their final project was to construct a shed with an irrigation system for the AARI community garden.

We had approached them with our idea of building a shed equipped with gutters for irrigation. We were hoping that we could have a shed built at a reduced cost. They offered to have the carpentry trainees construct a shed for us as their final project. BCARI provided support in the planning, design, implementation, and coordination of the project completely through to its ribbon cutting, free of charge.

In an effort to collect water for irrigation at the garden, the shed was built with gutters around the roof that drain into two 250 gallon rain barrels. This irrigation system will conserve natural resource as well as provide water for our vegetable in an environmentally conscious manner.

- ❑ Present the significant contributions and role of project partners in the project.

West Elmwood Housing Development Corp. allowed AARI to use the vacant lot where the garden is located.

Southside Community Land Trust (SCLT) provides on-going technical support such as soil testing and cover seed crop, etc.

The Home Depot Foundation provided additional funding. This funding helped to move the project forward by allowing us to purchase the balance of the materials sooner than we had expected.

The City of East Providence donated truckloads of soil for the AARI garden beds. This donation was used to fill many of the 24 garden beds and saved AARI some of the expenses on purchasing soil.

City of Providence, Forestry department donated woodchips.

Goals and Outcomes Achieved

- ❑ Supply the activities that were completed in order to achieve the performance goals and measurable outcomes for the project.

AARI's project goal is to engage African adults and their families in the cultivation of community gardens to produce sustainably grown specialty crops for local markets.

We have made great strides toward that goal. We had 24 garden beds filled with a variety of African and American vegetables. We had nine different African vegetables growing in several beds. We learned quite a bit about growing vegetable and getting familiar with the African vegetables, which are not native to this climate. As we gain more knowledge and do more research about growing these vegetables, we will be able to mass-produce African vegetables and reach our goal.

Our gardener community has grown from one lot with 24 beds and 12 gardeners, with 12 youths to two lots and 16 gardeners and 15 youths.

- ❑ If outcome measures were long term, summarize the progress that has been made towards achievement.

AARI have acquired another vacant lot at 40 Saratoga St ,Providence to transform into a community garden. With the knowledge that was gain from previous gardening experiences AARI expects to get the garden operational in May 2011. Some farmers have already been identified to help with the construction of bed for this lot. AARI will continue to pursue the use of other vacant lots to create more community gardens.

AARI will learn how to legally sell vegetables grown in a community garden and we continues to learn more about the WIC and EBT card programs.

- ❑ Provide a comparison of actual accomplishments with the goals established for the reporting period.
 - Produce sustainably grown local produce that is integral to the native diets of African living in Rhode Island.
 - The AARI community garden had 24 garden beds with nine different varieties of African vegetables.
 - Strengthen an existing collaborative effort with the Southside Community Land Trust to help African immigrants and refugees become self-sufficient and knowledgeable about sustainable farming techniques and how to grow them in this climate.
 - Offer produce through a food co-op/farmer's markets to provide a local source of native foods for the African community.
 - Benefit from the agricultural skills and marketing knowledge that African refugees and immigrants bring with them.
 - Improve the health and nutrition of participants.
 - By growing native African vegetables, refugees and immigrants have been able to improve the healthy diets that they were use to in African.
 - Develop leadership within the African communities garden.
 - Increased the number of gardeners
 - Increased community interests,
 - Increased Volunteers
 - Health education for the community
 - Science, math and financial literacy opportunity for the youth and increased interest in fresh food

- ❑ Clearly convey completion of achieving outcomes by illustrating baseline data that has been gathered to date showing the progress toward achieving set targets.
 - Raised awareness on the advantages of fresh food
 - Increased the number of gardeners to 16 and 15 youths
 - Increased community interests in gardening and on environmental related issues,
 - Increased Volunteers at the garden
 - Health education on fresh food for the community through RI department of Health
 - Education for the youth at the garden on: Science, math and financial literacy opportunity for the youth and increased interest in fresh food.
 - Increased the # of beds to 40 in 2011 season

Some of the African Fruits and Vegetables we have grown are: Mchicca (Tanzania), cassava leaf (Liberia); Watermelon (Tanzania); Corn(Tanzania); Water Leaf, (Nigeria); Ewuro also called Jute(Nigeria & Liberia); Hot Pepper(Nigeria); Efo tete (Nigeria & Cameron) Jahatou (Gambia); garden egg(Nigeria

Beneficiaries

- ❑ Provide a description of the groups and other operations that benefited from the completion of this project's accomplishments.

Ten African refugees, immigrants and youth in the community have benefited from this project. They have been able to eat traditional African vegetables that are not easily found in local supermarkets. Eating fresh vegetables will help us to maintain good health. They have been communicating with visitors and expanding their English vocabulary.

Visitors to the garden have benefited from this project by learning about African vegetables and having the opportunity to taste them as well.

- ❑ Clearly state the quantitative data that concerns the beneficiaries affected by the project's accomplishments and/or the potential economic impact of the project.

The African refugees are requesting more garden beds for next year. Gardening gives them something to do during the day and gives them a place to meet. AARI is currently looking into acquiring more vacant lots to be transformed into community gardens. AARI will need financial assistance and other donations to create more community gardens.

Lessoned Learned

- ❑ Offer insights into the lessons learned by the project staff as a result of completing this project. This section is meant to illustrate the positive and negative results and conclusions for the project.

During the summer months we had a lack of water for our vegetables. With limited amounts of water some of our farmers lost interest in gardening. We have resolved this problem by equipping our shed with gutter that collect water into two rain barrels.

- ❑ Provide unexpected outcomes or results that were an effect of this project.

An unexpected outcome of this project was the level of community interest and the degree of happiness that the refugees experienced.

- ❑ If goals or outcome measures were not achieved, identify and share the lessons learned to help others expedite problem-solving.

Contact Person

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Final Performance Report 12-25-B-0947

Project Title: Methodist Community Gardens.

Project Summary

Our initial purpose of our project is to extend our seasonal crops so that we can provide as much fresh produce to the needy as our garden space will yield. The secondary goal is to expand the variety of vegetables we provide to the recipients enhancing good nutrition. The problem each year that we face is the short growing season that we have in New England and we don't always get the best of weather. The biggest problem is we never have enough.

In a letter from the Martin Luther King Jr. Center, one of our recipients of fresh vegetables every week "According to statistics compiled and published by the Rhode Island Community Food Bank, hunger impacts every community in Rhode Island affecting thousands of individuals and families. Due to low wages and the high cost of living in Newport County, the King Center's food pantry is experiencing an increase in the number of working families with children who are in need of our help because they are struggling to make ends meet. No one should have to choose between utilities and food, rent and food or medicine and food." We are providing more vegetables than in previous years and there is still empty boxes when we make our deliveries.

Project Approach

Our week begins with Monday and Tuesday workdays. These are days that projects in the garden are done. Planting, weeding, building trellises or garden boxes and turning over compost and tying up plants.

These are also the days that we have Child and Family Service and residents from the John Clarke Nursing Center working in their raised garden boxes and tables.

Tuesdays, Thursdays and Saturdays we pick vegetables and deliver. Flowers are done on alternating Tuesdays and Thursdays and weekends for our local nursing homes and shut-ins.

The production of vegetables in the garden has been stupendous. Everything is weighed, logged and bagged for delivery. We have harvested and delivered 2,603 lbs of vegetables and 115 vases of flowers.

Martin Luther King Center	1,024 lbs
Lucy's Hearth	216 lbs
St Joseph's Soup Kitchen	653 lbs
Florence Gray Center	251 lbs
McKinney Shelter	268 lbs
Misc Soup Kitchens	191 lbs

One of our largest quantities in the garden this year is tomatoes. We picked 708 lbs of regular tomatoes and 168 lbs of cherry tomatoes. Last year because of the tomato blight we only had about 100 lbs for the season.

We have picked 179 lbs of green beans and 133 lbs of lettuce, grown in raised garden boxes. A great find this year is our Malabar Spinach which grows on trellises all summer. It is so clean and delicious. It has taken the place of lettuce in the hot weather for salads.

We harvested 317 lbs of butternut squash again this year for our later deliveries in October.

The Methodist Community Gardens is a faith garden project organized and sponsored by three Methodist Churches on the island. We are staffed solely by volunteers from the community and other local churches. St Paul's UMC raised money by having a cereal night and shared it's donations with three of our recipients and the garden as well. We also received grants from local foundations on the island, the van Beuren Charitable Foundation, the Aquidneck Land Trust and the Alice P Mayer Fund.

With these funds we have constructed a high tunnel hoop house, modified the garden boxes for the John Clarke Nursing Center and purchased materials for the youth group garden programs. We also have a new community garden sign to bring more awareness as to where we are located and what we are doing in our neighborhood.

Goals and Outcomes Achieved

Our High Tunnel Greenhouse is 14' wide and 96' in length. Our plan incorporates 36 beds 30" X 8 ft planted with salad greens, spinach, chard, beets, carrots, kale, radishes and turnip.

We recruited students from Salve Regina University and the East Bay Met High School to help us with our Winter Harvesting Project. This project requires no water or heat and we should be able to harvest these crops all winter. This is a new concept of gardening that has been successful in Maine and will be our first time experimenting with this type of gardening.

The hoop house has been successfully harvesting greens the month of November providing our recipients with good nutritious food.

I think we are right on target. If we are successful, we might be the first to be delivering fresh produce during the winter months to the food banks and shelters on the island.

Beneficiaries

The groups that are benefiting from the completion of our hoop house are the Martin Luther King Center, St Joseph's Soup Kitchen, Florence Gray Senior Center, McKinney Shelter, Edward King House and our Methodist UMC soup kitchens. They have been recipients of 141 pounds of nutritious lettuces, spinach, kale, turnip, and radishes in the month of November.

An approximate number of recipients from the hoop house this winter months would be 700. We figure about a half pound a serving.

Lessoned Learned

Winter harvesting has amazed us all. Starting a project that has never been done before on the island was a big challenge but we remained positive and had faith that we were going to succeed. Most of our lettuces and greens grown by seed have been harvested three times since we planted them. We still have carrots and turnip growing that will be harvested soon. We are also experimenting with Larkspur an annual flower that will go dormant in the cold and start to grow earlier in the spring. This will give us a head start with our delivery of flowers to local nursing homes.

Regardless of our cold hoop house our production has been more then we have anticipated and we are eager to see as the temperatures get even colder how we will prevail. We never realized that we could actually prolong our growing season straight through the year.

In March we will change the entire cold hoop house to a greenhouse for summer crops. By adding electricity for exhaust fans and water lines to the hoop house for irrigation we will have tomatoes, cucumbers and peppers growing two months earlier this spring and well into the fall.

Contact Person

Methodist Community Gardens
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Farm Fresh Rhode Island Market Mobile Business Manager

Project Summary

- ❑ **Provide a background for the initial purpose of the project, which includes the specific issue, problem, or need that was addressed by this project.**

Many years ago, wholesale buyers in Rhode Island bought consistently from specialty crop farmers in Rhode Island, for quality and convenience. Wholesale was a viable business plan for many sizes and types of fruit and vegetable farms. Recent times have seen a different type of market landscape for specialty crop growers: retail sales, despite their labor-intensity, are the only way many farmers can make ends meet. Wholesale transactions, competing as they do against produce from all over the world, become a dump for sub-quality local produce, giving wholesale Rhode Island specialty crops a bad reputation with institutional buyers. A destructive cycle of low prices and low quality affects the wholesale market for Rhode Island specialty crops, and thousands of buyers and consumers (those who do not/are not able to enjoy farm stands or farmers markets) miss the exceptional quality and economic benefits of buying locally grown.

- ❑ **Establish the motivation for this project by presenting the importance and timeliness of the project.**

Farm Fresh Rhode Island debuted its all-local specialty crop distribution system in January 2009. The program has been a great success, meeting or exceeding all program benchmarks and expectations. Sales have grown steadily, the number of customers has grown steadily and sales have been a steady stream of income for farms. Market Mobile customers include restaurants and diners, small grocers, universities, and farm stands. In March 2011, cumulative gross sales since January 2009 passed the \$1 million mark.

- ❑ **If the project was built on a previously funded project with SCBGP or SCBGP-FB, describe how this project complimented and enhanced previously completed work.**

The Market Mobile was initiated with the assistance of a specialty crop grant in 2009. The first year of funding covered the design on the platform, including the computer software, warehouse protocols and delivery procedures. The second year of Market Mobile expanded the number of customers for specialty crops and the number of fruit and vegetable farmers participating.

Project Approach

- ❑ **Briefly summarize activities performed and tasks performed during the grant period. Whenever possible, describe the work accomplished in both quantitative and qualitative terms. Include the significant results, accomplishments, conclusions and recommendations. Include favorable or unusual developments.**

Farm Fresh has been a great success and continues to grow. The Market Mobile coordinator began by identifying and developing relationships with potential farmers and customers through phone, email, the web and in-person meetings. Visits and phone conversations were also arranged with a few different model organizations in the Northeast region. There was also a lot of contact with various press publications, partner agencies and efforts to promote Market Mobile customers at local farmers markets. The coordinator was regularly available to both farmers and customers who had questions or needed support using the online ordering system. The coordinator used customer and farmer location data in the form of a map to examine delivery routing, potential efficiencies and ways to further increase local food consumption throughout Rhode Island. The coordinator also handled billing so that farmers were paid promptly and so that customers were current in their payments. The coordinator regularly asked farmers and customers for feedback about wholesale local food buying and the Market Mobile program, and offered 2 formal web surveys about preferences for future direction. From inception in January 2009, through May 2011, Market Mobile has grossed \$1,222,584.52 in sales to a range of customers, from small corner grocers to large universities; from diners to high-end restaurants.

- ❑ **Present the significant contributions and role of project partners in the project.**

Market Mobile evolved with the assistance of customers and producers, each supporting and trusting the system to conduct their produce in a professional manor, make good on orders place, pay farms for produce purchased. Farm Fresh has gained customers steadily, the cumulative number growing each week. As customers are added, new specialty crop producers are added. As of May 2011, Market Mobile aggregates and distributes the produce of 35 specialty crop producers to over 100 buyers.

Goals and Outcomes Achieved

- ❑ **Supply the activities that were completed in order to achieve the performance goals and measurable outcomes for the project.**

Outcome One: An approximate snap-shot of Rhode Island specialty crop commerce; specifically, retail vs. wholesale sales, and where the wholesale sales are directed (in-state, out-of-state, grocers, food service, etc). This information will be utilized in the on-going business plan development for Rhode Island's locally grown movement, by farm-to-school organizers, farmers market organizers, institutional buyers and distributors of local foods. In addition, Market Mobile sales data will be analyzed for trends and useful insights into how farmers can better benefit in the wholesale marketplace.

Farm Fresh sought data on the wholesale marketplace for specialty crops in Rhode Island, but this data is not gathered in a way that is able to be analyzed and evaluated for marketing trends. Therefore, staff interviewed the vendors on Market Mobile to ascertain their wholesale/retail buying patterns for specialty crops. These farmers reinforced Farm Fresh's observations that Rhode Island specialty crop growers pursue a variety of business models, that include retail and wholesale.

Outcome Two: That Market Mobile will begin serving institutional buyers, including hospitals, schools, day cares, nursing homes and universities. These buyers purchase tons of produce weekly. Any in-road into their purchasing will represent a boon to local growers, if the convenience and price point are correct. Farm Fresh will learn how these markets can be accessed and how they can be supplied.

During the project period, the Farm Fresh business manager oversaw and implemented outreach to 15 institutional customers in Rhode Island. Hospitals were targeted for fresh produce purchasing, using great models from other states. Through these efforts, Rhode Island Hospital, Rhode Island's largest hospital, began buying local produce for its staff cafeteria through Market Mobile. Farm Fresh staff assisted this work through promotional work, such as tabling at events at the hospital. Hospital purchasing staff met with the farmers from whose farms they purchased. Since RI Hospital began purchasing specialty crops through Market Mobile, Westerly Hospital and Newport Hospital have also begun to purchase local produce through Market Mobile.

Farm Fresh's staff also initiated conversations with Sodexo and Aramark, two major caterers for institutions across Rhode Island, including schools, universities and hospitals in Rhode Island. These caterers have stringent requirements for their distributors, including \$5 million liability insurance, HACCP plans (even for products that are not processed or fish) and similar. To comply with these requirements, Farm Fresh began to build out its warehouse with refrigerators, cooled workspace and large sinks.

- ❑ **If outcome measures were long term, summarize the progress that has been made towards achievement.**

Market Mobile is selling to three hospitals, two universities, two schools and two workplaces. More outreach is needed to increase these numbers, as is further progress on relationships with the caterers that supply many of these target institutions. Completion of the fit-out for the warehouse puts Farm Fresh's very close to accomplishing the prerequisites for supplying these caterers with locally grown specialty crops.

- ❑ **Provide a comparison of actual accomplishments with the goals established for the reporting period.**

The goal of the Market Mobile is to facilitate grower-buyer relationships in Rhode Island. The goal of this grant is to learn more about the wholesale capability of Rhode Island that could be accessed through a local distribution system (the Market Mobile). The second goal is to learn more about how Market Mobile can supply large institutional buyers with locally grown specialty crops and begin implementing these practices.

These goals were met during the grant period and continue.

- ❑ **Clearly convey completion of achieving outcomes by illustrating baseline data that has been gathered to date showing the progress toward achieving set targets.**

In 2010, Market Mobile distributed over \$395,000 in specialty crops. The majority of this food – 66% - went to restaurants and caterers. A significant portion – 25% - went to retailers such as, grocers, corner stores, farm stands and buying clubs. Nine percent of sales for that year went to institutions as described in the Specialty Crop grant – schools, universities, hospitals and work places. In 2009, no hospitals or workplace ordered from Market Mobile at all, so there was growth in these two sectors. These percentages will continue to be monitored and targeted. Data from 2011 is inconclusive to date, as the main Rhode Island specialty crop growing season is not yesterday underway.

Beneficiaries

- ❑ **Provide a description of the groups and other operations that benefited from the completion of this project's accomplishments.**

There are twenty-four specialty crop farms that sell their produce on Market Mobile. These farms, according to survey data, were able to expand their wholesale sales through the Market Mobile.

- ❑ **Clearly state the quantitative data that concerns the beneficiaries affected by the project's accomplishments and/or the potential economic impact of the project.**

In 2010, Market Mobile distributed over \$395,000 in specialty crops.

Lessoned Learned

- ❑ **Offer insights into the lessons learned by the project staff as a result of completing this project. This section is meant to illustrate the positive and negative results and conclusions for the project.**

Running a distribution and aggregation service presents a number of interesting challenging. When dealing with small, often sole proprietor farms, a single pest or weather event can decimate a crop category, resulting in unhappy customers, so customer service turns out to be a very important part of the local agricultural scene.

Maintaining safe food environments, including frozen and refrigerated environments, is super critical, but also very expensive. This challenge is solved through infrastructure build-out and proactive planning.

- ❑ **Provide unexpected outcomes or results that were an effect of implementing this project.**

The Market Mobile distribution system for specialty crops has provided an excellent model and inspiration for other types of local foods, such as meat, dairy and shellfish. This positive movement assists the local economy in general and local agriculture in particular.

- ❑ **If goals or outcome measures were not achieved, identify and share the lessons learned to help others expedite problem-solving.**

Despite Farm Fresh’s work with the Rhode Island Farm to School project, the Market Mobile facilitated very little farm-to-school sales, and none to large districts. The Market Mobile was conceived as a good solution to the challenges of farm-to-school sales of specialty crops. More research and outreach needs to be conducted to discover and solve the challenges of farm-to-school purchasing.

Contact Person

- ❑ Name the contact person for the project
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Final Performance Report 12-25-B-0947

Project Title: The Rhode Island Farm to School Project

Submitted by: Kids First

Project Summary

The Rhode Island Farm to School Project was developed in order to bring fresh local fruits and vegetables to school lunch programs throughout the state. Our purpose was to improve children’s nutrition, support local agriculture and farm viability and help preserve open space and the quality of Rhode Island’s environment.

This program addresses two critical issues in our state— the economic viability of small farms and preservation of open spaces and the epidemic of childhood obesity.

While the USDA estimates that 94 percent of farms in the United States are small farms (those earning \$250,000 or less), the lion’s share of food production has shifted to fewer, larger farms, and smaller farms must struggle to survive. The failure of small farms results in farmland lost to real estate development, thus impacting rural communities with economic hardship and environmental damage. Small farms in Rhode Island must find new ways to market their produce, and schools represent an important opportunity in this regard. More than 14 million school lunches, more than four million school breakfasts, and more than 300 thousand after school snacks are served in the school lunch programs each year. The Farm to School program has created a new “school market” that is providing a stable and predictable demand for large volumes of produce, including some smaller (substandard sized) fruits and vegetables that previously did not have a sales outlet. This is helping to ensure sustained markets for local products throughout the state.

At the same time, childhood obesity has emerged as a leading national public health threat and Rhode Island is not exempt from this national “epidemic.” In Rhode Island, the Department of Health reported that in the 2006-07 school year, nearly one in five (18.8%) Rhode Island kindergarteners were obese while 17 percent of seventh graders were obese. High school students fared a little better at 11

percent. The Rhode Island Farm to School Project provides an exceptional opportunity to improve the school nutritional environment by increasing the amount and quality of fruits and vegetables that are available to children in the school meals programs.

As was true in 2009, this continues to be an excellent time for the growth of the Farm to School program. We have been able to connect all 36 RI school districts to RI farmers, making “Buy Local First” a highly achievable statewide goal. The current activity in Rhode Island around the concept of “local food” is gaining even more momentum. The Farm to School language instituted in school district wellness policies, in RI Nutrition Requirements for school meals (which became effective September, 2009) and in district food service contracts is having a significant impact on buying practices of the three national food service corporations currently operating in RI. At the same time, our farmers continue to be enthusiastic participants in the program.

With our first Specialty Crop grant, awarded in 2007, our goals were focused on five major initiatives that included building support in schools through the District Wellness Councils; providing training and technical assistance for schools to participate in Farm to School; facilitating a new market for schools with a bulk pricing structure; facilitating new distribution networks from farm to school; and finally, helping to expand the market so that other institutions can tap into this new system. Working towards these goals, we were able to successfully implement the program, involving all 36 RI school districts and significantly increasing the amount and variety of produce being used by the schools. Building on that success, the 2010 grant was used to institutionalize the Farm to School Project and make it self-sustaining by strengthening the connections between farmers and schools through relationship building, education and communication.

Project Approach

In 2009, the Farm to School program moved steadily forward towards its goal of achieving sustainability. This report highlights our accomplishments and challenges during 2010.

During the time period January 1 through December 31, 2010, the Farm to School program successfully continued to provide technical assistance to farmers, distributors and food service directors as well as deliver educational programs to school and community groups. We are proud to report that we reached over 28,000 students and school community members directly with our Rhode Island Farm to School educational programs and tens of thousands more indirectly with local foods eating experiences in their schools.

While working to develop relationships between the growers and servers of food, Kids First coordinated the delivery of 101 classroom education, after school and summer programs throughout the state of Rhode Island. These programs teach all grade levels the importance of farms to our economy, environment and community. They also include information on nutrition that encourages students to choose more fresh fruits and vegetables in their diets.

Farm Field Trips were combined with many of these programs in order to reinforce the lessons taught and truly connect students to the source of their food. Kids First sponsored 31 Farm Field Trips that allowed 1,829 students to experience RI Farms through December of 2010.

Additionally, 38 Farm to School cafeteria education programs were presented to over 11,000 Rhode Island students. These programs included visits by farmers, chefs and nutrition educators as well as RI Grown costumed characters. Each event celebrated and encouraged the consumption of the RI Grown produce offered in the meal while teaching basic lessons on agriculture and/or nutrition.

All 13 Sodexo school districts, which feed more than one half of all RI school children, celebrated this past fall with All Local Lunch Days, while many other schools participated in annual Harvest Fest celebrations. RI Grown was also celebrated in the schools with RI Grown Carrot Festivals, RI Grown Strawberry Festivals, “Fresh to you Market” healthy cooking demonstrations, a statewide Family and Consumer Science Teacher workshop and a gardening and youth program with the Southside Community Land Trust.

Kids First seeks to bridge the gap between what students are served in schools and what they eat at home by offering parents and adults in the community similar workshops. Over 300 school community members participated in our “Eating Healthy on a Budget” workshops featuring healthy cooking demonstrations that highlighted seasonal RI Grown produce that can be purchased economically.

In combination with the school lunch improvement work Kids First does throughout the state, we believe this programming is delivering a comprehensive message to food service providers, students, teachers, parents, administrators and other members of the school communities to choose real, whole and locally grown food whenever possible. Programs are offered to schools and school food service through a multitude of avenues. Outreach to school administrators is done by Kids First Wellness Coordinators through contact with Wellness Committees. We also have established relationships with School Nurse Teachers and Health Coordinators in all districts, which allows us to disseminate information on programs to Health Teachers across the state. Our work with food service providers to improve the nutritional content of school food brings us into the kitchens and cafeterias on a regular basis, allowing opportunity to consistently promote the use of RI Grown produce to all levels of food service staff.

When it comes to working with farmers, Farm to School Coordinator Kimberly Clark (formerly Sporkmann), makes frequent visits and phone calls to farmers who participate in the program or who may potentially do so in the future. Relationships are nurtured and information is shared as we work to track the RI farm purchases that RI food service providers make. Good will is built during face-to-face contact on the foodservice staff Farm Field Trips we sponsor and at the annual Farm to School stakeholders meeting each winter.

Communications Specialist Jennifer Quigley Harris, assisted by Kelly Swanson, has kept Farm to School in the public eye with numerous publicity releases and 22 articles including Farm to School activities in local newspapers, magazines and e-newsletters.

In addition Jennifer and Kelly regularly updated and kept fresh the Farm to School web page on the Kids First website (www.kidsfirstri.org/newfarm.htm). They have also created Farmer Trading Cards, a

popular item with students, and over 90,000 have been produced and distributed in classrooms across the state or in cross promotions with Whole Foods Market.

In 2010, we implemented a monthly Farm to School newsletter primarily targeting school food service providers that was sent electronically to all interested parties. This newsletter was also distributed to school administrators and district Wellness Committee members so that they could encourage their food service providers to increase their participation in the program. After only five editions, this form of communication catalyzed the purchase of RI Grown asparagus for three districts, RI Grown frozen strawberries and fresh lettuce for three other districts and the pre-planned menu-ing of various RI Grown products in the autumn months. It is our hope that with this form of communication, news of the availability of RI Grown produce will be easily spread throughout the community. For program sustainability, we believe that it is important to stimulate school community members to encourage and demand more RI Grown in the school lunch program.

Working with project partners has added to the scope of our work. Kids First continued to participate in the South Side Community Land Trust's "Plant Prov" initiative. We sat on the planning committee and delivered a "Gardening with Youth" workshop. We also attended the annual Urban Agriculture Task Force gathering to network with other members of the Providence local food community. Kids First offered support to the Environmental Justice League's "Healthy Corner Store Makeover" by working with Providence high school students to teach them nutrition and basic cooking skills in their neighborhoods and we presented workshops and offered garden related nutrition education programs for students in three different RI school communities through RICAPE. In all of these programs and workshops, RI grown produce was used whenever possible for cooking demonstrations and samplings and a key component of the program was to promote the importance of supporting local agriculture. We continued to collaborate with Farm Fresh RI to promote RI grown produce to schools, worksites and institutions.

Work with our partner organizations has been invaluable to extending our resources and outreach beyond the school to parents and other community members. Combining forces furthers both our promotion of healthy eating and support of local agriculture while building awareness of the impact our eating habits have on the local economy, community and personal nutrition.

Goals and Outcomes Achieved

The Farm to School Project is monitored through an extensive database and tracking system which records all RI grown product sales from each local farm to individual schools in each community and also tracks all educational programs provided. Through the collection of this information, we have been able to determine if the established measurable outcomes have been achieved.

Outcome 1: All 36 school districts make regular documented purchases of locally grown fruits and vegetables.

All 36 school districts are participating in farm to school with most (35 out of 36) making regular purchases. North Kingstown has made limited purchases this year, but after much facilitation, we now see that energy is beginning to build and they are committing to greater involvement this spring.

Outcome 2: There is an increase in the amount of locally grown fruits and vegetables purchased by the schools.

In 2009, 161,388 pounds of RI grown fruits and vegetables were sold to the schools. In 2010, 245,531 pounds of RI grown fruits and vegetables were sold to the schools, an increase of 84,143 pounds over 2009. (See below for a discussion of Outcomes 2 and 3 together.)

Outcome 3: There is an increase in the variety of locally grown fruits and vegetables purchased by the schools.

Pumpkins, nectarines, watermelon, beets, frozen strawberries, pea pods and apple cider were 7 new items sold to schools in 2010, increasing the variety to a total of 31 different RI grown fruits and vegetables sold to and served in RI schools. (See below for a discussion of Outcomes 2 and 3 together.)

To achieve Outcomes 2 and 3, there was significant outreach to farmers and food service directors to encourage and coordinate the purchase of fresh local produce for the school meals programs. Our Farm to School Coordinator met with food service directors, farmers, and distributors to facilitate program implementation, promote working relationships, and overcome obstacles. Kimberly and the Kids First staff also worked with food service companies and employees to develop the skills needed to receive, store, prepare, cook and serve fresh local foods in schools.

The chart on the following page compares Farm to School Purchases beginning in 2006 through 2010. There has been an increase in the amount of many of the fruits and vegetables being purchased, and also a continued increase in the variety of locally grown fruits and vegetables being purchased by the school districts.

Comparison of 2006-2010 Farm to School Purchases
Locally Grown Fruits and Vegetables
Rhode Island School Districts
As of May 5, 2011*

Fruits-Vegetables	2006 Amounts	2007 Amounts	2008 Amounts	2009 Amounts	2010 Amounts
Apples	544 cases	2,632 cases	2,511 cases	4,810 cases	4,934.5 cases
Corn	52 bushels	100 bushels	157 bushels	135 bushels	296 bushel
Tomatoes	117 cases	201 cases	14 cases	124 cases	154.75 cases
Potatoes	1,700 pounds	28,850 pounds	40,285 pounds	30,350 pounds	34,550 pounds
Butternut Squash	2,160 pounds	406 pounds	1,960 pounds	831 pounds	2,589 pounds
Broccoli	0	50 pounds	420 pounds	574 pounds	402 pounds
Peaches	0	45 bushels	166 cases	401 cases	768.5 cases
Strawberries	0	260 quarts	255 quarts	866 quarts	444 quarts
Carrots	0	30 pounds	2,000 pounds	2,675 pounds	1,858 pounds
Cider	0	252 gallons	506 gallons	0	37 gallons
Cucumbers	0	1.5 cases	0	60.5 cases	64.25 cases
Cabbage	0	0	120	0	0

			pounds		
Cherry tomatoes	0	0	44 flats	18 flats	409.5 flats
Green beans	0	0	100 pounds	100 pounds	356 pounds
Lettuce	0	0	2 cases	22 cases	896 pounds
Zucchini	0	0	1,505 pounds	1,140 pounds	2,039 pounds
Summer squash	0	0	0	180 pounds	2,689 pounds
Blueberries	0	0	0	37 cases	0
Cantaloupe	0	0	0	2 bins	3.25 bins
Pears	0	0	0	1 case	1 case
Peppers	0	0	0	224 cases	267.75 cases
Plums	0	0	0	15 cases	11 cases
Celery	0	0	0	1 case	0
Eggplant	0	0	0	144 cases	2 cases
Spinach	0	0	0	4 cases	12 pounds
Pumpkin	0	0	0	0	521 pounds
Nectarines	0	0	0	0	420 cases
Watermelon	0	0	0	0	20 each
Beets	0	0	0	0	1 case
Frozen Strawberries	0	0	0	0	442 pounds
Pea Pods	0	0	0	0	5 pounds

***Data for the 2010 Harvest is incomplete as school districts are still reporting purchases**

Criteria 4: At least 10 RI farmers report that they are now planting designated acreage specifically for the RI school market.

This outcome was achieved, although success came in a different form than expected. Six Rhode Island apple growers are managing their orchards to yield more small apples in order to meet the demand by schools. Three potato farmers have changed their harvesting practices and now pick and pack smaller "B" sized potatoes especially for school food service. Two area farmers have dedicated acreage to school food products and one farmer is growing specifically for the produce distributor who holds the DOD Fresh contract, which is federally funded and provides fresh produce to schools. Pezza Farm in Johnston agreed to grow 600 pounds of lettuce for the Sodexo managed school districts. It was delivered in time to be served for a statewide "All Local Lunch Day" on September 17th.

Knight Farm and Steere Farm have been working together to grow broccoli specifically for the school market. Last year the two farms planted one acre with broccoli and produced approximately 2,000 pounds in three plantings. They did so well in this pilot project that this year they put in between 80,000 and 100,000 plants. Unfortunately, Mother Nature was uncooperative and because of poor growing conditions (the summer was too dry), the crop didn't come in. However, the farmers recognized the demand for broccoli and tried to meet the need and this type of initiative is essential to sustaining the Farm to School program.

Schartner Farms put in three acres of carrots expected to yield 60,000 pounds because food service directors identified carrots as a crop they would buy. However, school food service purchasers did not start ordering carrots to serve in schools until Kids First supported late winter "Carrot Festivals" and strongly encouraged schools to order them. Although it took until later in the school year for Rhode Island schools to begin buying the carrots, once they were introduced to students they became a huge hit. Schools began requesting carrot sticks, coins and shredded carrots in order to serve the carrots in salad bars and cooked recipes. We quickly learned that in order to process carrots, a certain size and shape carrot is necessary to run through the equipment. Most of the Schartner Farm carrots were too slender to run through the processing equipment, so schools had to process the carrots themselves by hand. This limited the amount of carrots that could be sold to the schools.

Schartner again planted and planned to sell carrots to schools this school year, 2010/2011. The farmer planted a larger, thicker variety of carrot which has no problem going through the processing machines. He now makes shredded carrots, sticks and coins available to both schools and his retail customers through the Market Mobile. The number of carrots served to RI school kids continues to increase.

Beneficiaries

All RI school children benefit from the Farm to School program with increased access to fresh local fruits and vegetables available in the school meals programs. Students also have the opportunity to participate in education programs that increase their understanding of nutrition, the health benefits of fresh local produce and the importance of supporting local farms. Teachers, administrators, food service staff and parents participate directly in these activities as well and also hear the "Buy Local" message through Farm to School publicity in local papers and/or TV news. This heightened awareness for the entire community increases the "visibility" of our local farms and raises the demand for local products. As stated previously, we reached over 28,000 students and school community members directly with our educational programs and tens of thousands more indirectly with local foods eating experiences in their schools.

Farmers directly benefit from the Farm to School program with increased sales to the school market and improved farm viability. The expansion of the Farm to School program and the potential for the RI Farm to School Project to impact the competitiveness of specialty crops can be seen in the table on page 5, which demonstrates the growth in the amount and variety of local farm products distributed to RI schools from 2006 to 2010.

Lessons Learned

We have learned that education to create awareness is essential to changing attitudes and behaviors. Small, B-sized RI Grown potatoes were one of the first local products identified to be ideal for school use. The small potatoes proved to be a great product because they required very little processing by kitchen staff. Simply washing them, seasoning them and roasting them whole resulted in a delicious, two-bite, side dish that students could easily enjoy with just a spork. They quickly became very popular and schools all over the state started trying them. An issue of concern for the Farm to School program in 2009 and again in 2010 was the decision RI school food service directors made collectively to purchase a USDA commodity potato product. This wedged and seasoned potato product essentially replaced a portion of the RI Grown potatoes many of the schools had purchased and served in years past. The potential that exists to support more than double the amount of potato sales in the state is not being realized due to use of the USDA commodity potato. This situation illustrates the need to

create awareness among school communities as to the far reaching impact the choice of using USDA commodities has on our local food programs. Kids First seized a learning opportunity by coordinating a public workshop entitled "Demystifying Commodities". Representatives from every school district and wellness committee were invited to learn about the process schools go through to choose these government subsidized foods and the implications of those choices for our local farms and our local economy. The workshop was held in January, 2011 at West Warwick High School and was attended by over 50 school community members from around the state.

We have always felt that program sustainability would be enhanced by the existence of formal purchasing agreements between farmers and food service directors. This would allow for advance planning and result in consistent purchases of local product. We have found that, despite our efforts to foster formal contracts between food service and farmers for the production and sale of produce, handshake agreements are preferable to both parties and have worked successfully. We must respect this choice, although formal relationships continue to be encouraged.

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URI Final Report for Specialty Crop Grant # 12-25-B-0947

Final Report for Specialty Crop Grant # 12-25-B-0947

Project Title

Vegetable Variety Trials for RI Fresh-market Growers

Project Summary

From the 1940s through the 1990s vegetable production in the United States became increasingly concentrated in a small number of areas with particularly favorable climate, topography, and economics for extremely large scale production. Vegetable breeding programs focused their efforts on development of varieties suited to the needs of these production areas. Recently strong demand for locally grown produce has led to an increase in vegetable production in Rhode Island and throughout New England. However, farmers lacked information about which varieties were best suited to the climate and production methods found in New England, and which varieties were suited to production for local retail rather than for long-distance shipping. The purpose of this project was to evaluate the performance of heirloom and modern local-market varieties of tomatoes and other vegetables under Rhode Island conditions.

Project Approach

This project was conducted during the summer growing season of 2010. We trialed slicing tomatoes and powdery mildew resistant slicing cucumbers. The tomato trial was a follow-up to the 2009 trial

conducted for project # 12-25-B-0838. The cucumber trial was added in response to questions from growers as to which of the many new mildew-resistant varieties was best.

The tomato trials were conducted according to USDA Organic production guidelines. Data was collected on harvest period, yield, fruit size, fruit quality, and susceptibility to early blight, powdery mildew, and gray mold.

Powdery-mildew resistant slicing cucumbers were grown from transplants using typical plasticulture methods except that we used BioTelo plastic mulch, which is made from cornstarch rather than petroleum and is fully biodegradable. Cucumbers were evaluated for maturity, yield, fruit quality, and susceptibility to bacterial wilt, which is spread by cucumber beetles.

Results and Recommendations – Tomato Trial

Yield: The trial was harvested thrice-weekly from July 7 until August 28, when disease pressure became so great that there was no marketable fruit. Fruit was harvested when fully ripe; total weight and number of fruit were recorded for each plot. Harvest data are presented in table 1. ‘Glacier’ was the first variety to ripen, followed by ‘Matina’, ‘Taxi’, and ‘Moskovich’. All varieties continued to yield fruit until the last week of August. ‘Marglobe’, ‘Scotia’, and ‘Orange Blossom’ had the highest yield, while ‘Hillbilly Potato Leaf’ and ‘Striped German’ yielded the least. Fruit size ranged from 1.5 ounces for P20-3-1 to 15 ounces for ‘Brandywine Pink’ and ‘Striped German’. In addition to the lowest yield, ‘Striped German’ and ‘Hillbilly Potato Leaf’ had the fewest fruit, with 37 and 38 respectively. ‘Bonito Ojo’ produced the most fruit, 879, followed by ‘P20-3-1’ with 600. The trial included 14 small-fruited varieties (average fruit weight < 4 ounces). Of these ‘Bonito Ojo’ produced the most fruit by count while ‘Scotia’ produced the most fruit by weight. Twenty-five varieties had medium-sized fruit averaging 4-8 ounces. ‘Marglobe’ was the highest-producing medium-fruited variety by both count and weight. Twelve varieties produced large to very large fruit averaging 8-16 ounces. ‘Biltmore’ was the top producer in this category. A variety was classified as early-season if the first harvest occurred on or before July 21 and the peak harvest occurred on or before August 16. Of the 16 early-season varieties in the trial 9 had small fruit, 5 had medium fruit, and 2 – Cherokee Purple and Rose – had large fruit. ‘Scotia’ was the most productive by weight while ‘Bonito Ojo’ produced the most fruit. Mid-season varieties had a first harvest date of July 19-21 with a peak harvest of August 25 or a first harvest of July 22-30 and a peak harvest after August 15. Of the 17 mid-season varieties 4 had small fruit, 10 had medium fruit, and 3 had large fruit. ‘Marglobe’ was the most productive by weight and P20-3-1 produced the most fruit. Late-season varieties had a first harvest after August 1; of the 18 varieties 10 had medium fruit, 7 had large to very large fruit, and one had small fruit. ‘Mountain Glory’ was the most productive by weight of the late-season varieties while ‘Gill’s All Purpose’ produced the most fruit.

Diseases: Early Blight, which is caused by *Alternaria solanii*, was the major limiting factor in the trial this season. The disease was first observed in the plot on the 9th of July. We rated on three separate dates using a 1-9 scale, where 1 represents a severely affected plant and 9 represents a plant that is unaffected. Varieties with the most resistance to leaf infection were Purple Calabash, Japanese Black Trifele, P20-3-1, and Nepal. Japanese Black Trifele and Purple Calabash suffered from fruit infection by mid-August; fruit of P20-3-1 and Nepal remained clean. The variety JTO-99197 had some leaf damage but the fruit remained clean. Powdery mildew appeared in the trial in late July and damage was evaluated on August 4. The varieties Hillbilly, Legend, Moskvitch, and Great White showed superior resistance to mildew. Gray mold caused by *Botrytis cinera* showed up in mid-July. Most varieties were resistant, but the fungus caused significant damage to Purple Calabash, Japanese Black Trifele (both strains) and Cherokee Purple. There was no sign of late blight in 2010. However, late blight data from 2009 is included for varieties that were tested that year. None of the varieties from 2009 were resistant to late blight but there were variations in tolerance. ‘Purple Calabash’, ‘Gill’s All Purpose’, and ‘NH Surecrop’ were the most tolerant varieties. Disease ratings are presented in table 2.

Recommendations: Information on seed sources and variety classifications are provided in table 3.

Red Fruited: ‘Scotia’ and ‘Bonita ojo’ were the best of the small fruited varieties. ‘Bonita ojo’ was slightly earlier and higher yielding, but ‘Scotia’ was less susceptible to early blight. ‘Legend’ was the best of the early varieties with medium fruit. It ranked second behind ‘Moskovich’ for earliness but had 61% more fruit. ‘Legend’ is resistant to late blight and powdery mildew but is very susceptible to early blight. ‘Marglobe’ was the best of the mid-season varieties; it out-yielded ‘Legend’ and is tolerant of both early blight and powdery mildew. ‘Paragon’ was the best of the late varieties; JTO 99197 has better resistance to powdery mildew and early blight but doesn’t yield as well, and ‘Paragon’ does have fruit resistance to early blight. ‘Biltmore’ has the highest yield of the large-fruited varieties and was second for earliness and early blight tolerance. ‘Brandywine’ had less disease but only half the yield.

Other Colors: One variety worthy of note is the new high anthocyanin variety ‘Indigo Rose’ which we trialed as P20-3-1. This large cocktail tomato from Oregon State University has purple foliage and fruit which ripens to purple and scarlet. The early blight resistant plants are attractive enough to be used as ornamentals, and produce an abundance of fruit with an outstanding flavor reminiscent of Japanese plums. The burgundy-fruited varieties ‘Purple Calabash’ and ‘Japanese Black Trifele’ had excellent foliar resistance to late blight, although the fruit was susceptible. ‘Japanese Black Trifele’ yielded more but we preferred the flavor of ‘Purple Calabash’. The Johnny’s strain of ‘Japanese Black Trifele’ is slightly more tolerant of powdery mildew and gray mold than the Territorial strain. ‘Sunkist’ and ‘Orange Blossom’ were the best of the orange-fruited varieties. Both were developed at UNH; together they provide a full season of fruit.

Table 1

Variety	First Harvest	Peak Harvest	Yield (lbs.)	Fruit No.	Fruit Wt. (oz.)
830 700 890	July 26	August 25	61.4	93	10.5
Beaverlodge	July 21	August 16	62.6	303	3.3
BHN 589	July 26	August 25	77.9	179	6.9
BHN 876	July 28	August 16	65.6	200	5.3
BHN 961	July 28	August 20	90.5	205	7.0
Biltmore	July 26	August 25	80.1	151	8.4
Bonita ojo	July 19	August 4	92.9	879	1.7
Bonny Best	July 28	August 16	80.2	292	4.4
Brandywine	August 2	August 25	43.5	66	10.5
Brandywine Pink	August 4	August 13	57.3	60	15.1
Cherokee Purple	July 19	August 16	60.8	115	8.8
Copia	August 4	August 25	70.1	98	11.4
Cosmonaut Volkov	July 19	August 16	91.5	233	6.2

Variety	First Harvest	Peak Harvest	Yield (lbs.)	Fruit No.	Fruit Wt. (oz.)
Fantastic F1	July 28	August 16	58.6	181	5.3
Frazier's Gem	July 26	August 20	70.4	205	5.4
Gill's All Purpose	August 2	August 20	63.8	281	3.6
Glacier	July 7	August 16	48.0	469	1.6
Golden Jubilee	August 2	August 27	61.1	138	7.4
Great White	July 19	August 25	66.9	104	10.4
Hillbilly Potato Leaf	August 6	August 25	30.1	38	12.7
Japanese Black Trifele	July 19	August 16	84.7	331	4.1
Japanese Trifele Black	July 26	August 16	97.5	353	4.4
JTO 99197 F1	August 4	August 25	70.2	194	5.8
Legend	July 16	August 16	74.4	279	4.3
Manitoba	July 21	August 16	77.4	427.5	2.9
Marglobe	July 26	August 25	121.0	428	4.5
Marion	August 6	August 25	65.6	183	5.9
Matina	July 13	August 16	68.7	529	2.0
Moskvich	July 13	August 13	55.0	173	5.1
Mountain Glory	August 2	August 16	106.2	248	6.9
Mr. Ugly F1	July 28	August 16	85.2	198	6.8
Nepal	August 6	August 25	63.0	156	6.7
NH Surecrop	July 26	August 16	95.4	423	3.6
Orange Blossom	July 16	August 16	110.2	300	5.8
Oregon Spring	August 2	August 18	65.2	247	4.3
Oroma	July 26	August 16	60.1	459	2.2
P20-3-1	July 21	August 25	55.6	600	1.5
Paragon	August 2	August 25	93.3	264	5.6

Variety	First Harvest	Peak Harvest	Yield (lbs.)	Fruit No.	Fruit Wt. (oz.)
Prudens Purple	August 4	August 13	55.2	88	10.3
Purple Calabash	August 2	August 13	72.6	274	4.2
Rocky Top	July 19	August 25	62.4	151	6.6
Rose	July 21	August 13	66.2	106	10.3
Rutgers	July 26	August 16	60.4	258	3.9
Saucy	July 13	August 13	66.2	440	2.4
Scotia	July 21	August 16	117.3	541	3.5
Silvery Fir Tree	July 16	August 16	76.8	316	3.8
Striped German	August 4	August 13	35.9	37	15.3
Sunkist F1	August 2	August 20	78.5	209	5.9
SVR 1400	August 4	August 16	53.6	72	11.8
Taxi	July 13	August 16	87.5	417	3.3
Valencia	August 6	August 25	59.2	189	4.9

Yield data for 2010 tomato variety trial. All yields are based on 15 plants/variety; yields for BHN 961 and Manitoba have been adjusted.

Table 2

Variety	Powdery Mildew	Early Blight				G ray Mold	2009 Late Blight		
		July 13	July 22	August 5	Fruit		July 27	August 3	August 10
830 700 890	4.7	8.3	7.7	5.3	n	8			
Beaverlodge	2.7	4.3	3.0	1.7	y	9	9.	2.0	1.0
BHN 589	5.3	7.0	7.3	2.7	n	9	0		
BHN 876	5.7	5.7	5.7	1.7	n	8			
BHN 961	5.3	5.0	3.3	1.7	y	9			
Biltmore	4.0	7.0	6.3	4.7	n	8			
Bonita ojo	4.0	8.0	3.0	1.0	y	9	9.	4.7	2.0
					es	.0	0		

Variety	Pow dery Mildew	Early Blight				G ray Mold	2009 Late Blight		
Bonny Best	3.3	7.7	6.3	2.7	n o	9 .0	7. 3	3.0	0.3
Brandywine	7.3	4.3	4.3	5.3	n o	9 .0	9. 0	5.7	1.3
Brandywine Pink	5.3	6.7	3.7	4.7	n o	9 .0	9. 0	4.0	1.3
Cherokee Purple	3.7	8.7	8.7	3.7	y es	4 .3	7. 3	4.3	1.7
Copia	3.7	4.7	3.7	4.0	n o	8 .7			
Cosmonaut Volkov	4.3	5.7	3.7	2.3	n o	9 .0			
Fantastic F1	6.0	6.7	3.3	1.7	y es	9 .0	9. 0	3.7	1.3
Frazier's Gem	4.3	6.0	5.7	4.3	n o	7 .0	9. 0	4.7	1.7
Gill's All Purpose	3.3	7.0	5.7	3.0	y es	9 .0	9. 0	7.0	2.0
Glacier	1.3	7.7	4.7	1.7	n o	9 .0	7. 5	3.0	0.5
Golden Jubilee	5.0	8.0	6.0	2.7	n o	9 .0	9. 0	5.0	1.3
Great White	5.3	7.0	7.0	5.3	y es	9 .0	7. 3	4.3	1.3
Hillbilly Potato Leaf	8.3	6.0	4.3	4.3	n o	9 .0	8. 3	4.7	1.0
Japanese Black Trifele	4.3	9.0	9.0	8.0	y es	3 .3	8. 7	4.3	0.7
Japanese Trifele Black	5.0	9.0	9.0	8.0	y es	6 .0			
JTO 99197 F1	3.7	8.7	6.7	5.0	n o	9 .0	9. 0	4.7	1.0
Legend	7.0	4.7	3.0	1.3	y es	8 .7			
Manitoba	2.0	7.0	2.5	1.5	y es	7 .5	9. 0	4.3	0.7
Marglobe	4.0	7.0	6.7	4.7	n o	9 .0	8. 3	5.7	1.3
Marion	5.0	5.0	4.7	5.7	n o	9 .0	8. 7	6.3	1.7
Matina	2.3	4.3	4.7	2.0	y es	9 .0	9. 0	6.0	2.3
Moskvich	7.7	5.0	3.7	3.3	n o	9 .0	7. 3	4.3	1.0
Mountain Glory	3.7	5.7	4.7	3.0	n o	7 .3			
Mr. Ugly F1	3.0	6.0	4.0	2.7	n o	9 .0	8. 3	5.0	1.3
Nepal	5.0	7.3	8.0	6.3	n	9	8.	5.0	1.7

Variety	Pow dery Mildew	Early Blight				G ray Mold	2009 Late Blight		
NH Surecrop	4.3	6.0	7.3	2.7	o y es	.0 9 .0	3 9. 0	6.7	2.3
Orange Blossom	4.7	5.7	4.0	2.3	n o	9 .0	8. 3	3.0	1.0
Oregon Spring	4.7	8.0	7.0	3.7	y es	8 .7			
Oroma	2.7	5.7	3.3	3.3	n o	9 .0			
P20-3-1	4.3	9.0	9.0	7.7	n o	9 .0			
Paragon	5.7	4.7	5.0	4.3	n o	9 .0	8. 0	3.7	1.0
Prudens Purple	5.7	6.7	4.7	4.0	n o	9 .0	9. 0	5.7	1.3
Purple Calabash	3.0	9.0	8.7	8.3	y es	3 .3	9. 0	7.3	2.3
Rocky Top	5.0	3.7	3.0	2.7	y es	9 .0			
Rose	5.3	5.3	4.7	4.0	n o	8 .3	9. 0	4.5	1.0
Rutgers	5.3	6.0	4.0	3.3	n o	9 .0	9. 0	4.7	1.7
Saucy	3.3	5.3	4.7	3.0	n o	8 .7			
Scotia	2.3	8.0	6.3	3.0	y es	9 .0	8. 7	2.3	0.7
Silvery Fir Tree	4.0	8.3	4.7	1.0	y es	9 .0	9. 0	2.7	1.0
Striped German	7.0	5.0	4.0	5.3	y es	9 .0	9. 0	6.0	1.7
Sunkist F1	3.7	5.7	5.7	4.3	n o	8 .3			
SVR 1400	4.0	7.3	5.3	4.3	y es	9 .0			
Taxi	4.3	7.3	3.3	4.0	y es	9 .0	8. 3	3.7	1.0
Valencia	3.7	7.3	3.3	4.7	n o	9 .0	9. 0	6.0	1.3
LSD	3.2	2.3	2.9	2.5	n /a	1	2. 1	1.7	0.6

Disease response data for the tomato trial. Response was quantified using a 1-9 scale where 9 indicates no disease. Response values that differ by more than the LSD value for that column are significantly different. Late blight data is from 2009; varieties with no data were not included in the 2009 trial.

Table 3

Variety	Source	Fruit Type	Maturity	Variety Type	Comments
830 700 890	Siegers	large red	mid-season	EXP	dense foliage and many branches
Beaverlodge	Territorial	small red	early	OP	organic seed
BHN 589	Siegers	medium red	mid-season	F1	determinate; leggy plant with profuse branching
BHN 876	Rupp	medium orange	mid-season	F1	fruit prone to cracking; excellent flavor
BHN 961	Rupp/Siegers	medium red	mid-season	F1	
Biltmore	Siegers	large red	late	F1	determinate
Bonita ojo	Territorial	small red	early	OP	organic seed; compact high yielding plant; fruit similar to large cherry
Bonny Best	Totally Tomatoes	medium red	mid-season	OP	yellow-green plant, not productive
Brandywine	Johnny's	large red	late	OP	beefsteak
Brandywine Pink	Hart	very large pink	late	OP	beefsteak; fruit much larger than Brandywine
Cherokee Purple	Johnny's	large burgundy	mid-season	OP	beefsteak
Copia	High Mowing	large mottled	late	OP	organic seed; yellow and red mottled beefsteak
Cosmonaut Volkov	High Mowing	medium red	early	OP	organic seed
Fantastic	Territorial	medium red	mid-season	F1	beefsteak
Frazier's Gem	Territorial	medium red	mid-season	OP	organic seed; dense, compact plant
Gill's All Purpose	Territorial	small red	late	OP	organic seed; early maturity in Oregon, may be heat-sensitive
Glacier	Territorial	small red	very early	OP	produced ripe fruit for 7 weeks
Golden Jubilee	Totally Tomatoes	medium yellow	late	OP	strong plant
Great White	Johnny's	large pale yellow	mid-season	OP	very indeterminate

Variety	Source	Fruit Type	Maturity	Variety Type	Comments
Hillbilly Potato Leaf	Rupp	very large mottled	late	OP	beefsteak, not productive
Japanese Black Trifele	Territorial	medium burgundy	early	OP	striped, pear-shaped fruit
Japanese Trifele Black	Johnny's	medium burgundy	mid-season	OP	later and better yielding than Territorial strain
JTO 99197	Johnny's	medium red	late	F1	determinate
Legend	Oregon State	medium red	early	OP	determinate, tolerant to late blight, parthenocarpic.
Manitoba	Territorial	small red	early	OP	determinate
Marglobe	Hart	medium red	mid-season	OP	determinate
Marion	Totally Tomatoes	medium red	late	OP	compact plant with dense, bluish-green foliage
Matina	Territorial	small red	early	OP	fruit in large bunches
Moskovich	Johnny's	medium red	early	OP	
Mountain Glory	Rupp	medium red	late	F1	few flowers/fruit in early July
Mr. Ugly	Rupp	medium red	mid-season	F1	beefsteak; prone to blossom end rot; dark green foliage.
Nepal	Johnny's	medium red	late	OP	beefsteak
NH Surecrop	Territorial	small red	mid-season	OP	severe yellowing of lower leaves
Orange Blossom	Johnny's	medium orange	early	F1	determinate, developed at UNH, some blossom end rot
Oregon Spring	Oregon State	medium red	late	OP	very early in Oregon, may be sensitive to heat
Oroma	Oregon State	small red	mid-season	OP	roma type; heavy producer but prone to blossom end rot
P20-3-1	Oregon State	small purple	mid-season	OP	unique purple and red large cherry; high anthocyanin; purple foliage
Paragon	Johnny's	medium red	late	OP	determinate
Prudens Purple	Johnny's	large red	late	OP	beefsteak, similar to Brandywine
Purple Calabash	Territorial	medium burgundy	late	OP	excellent flavor; distorted fruit
Rocky Top	Siegers	medium red	mid-season	F1	limited branching

Variety	Source	Fruit Type	Matu rity	Variety Type	Comments
Rose	Johnny's	large red	early	OP	beefsteak, similar to Brandywine but much earlier; susceptible to blossom end rot
Rutgers	Burpee	medium red	mid- season	OP	large plant, not productive
Saucy	Oregon State	small red	early	OP	determinate, plum type
Scotia	Territorial	small red	early	OP	determinate, heavy yield
Silvery Fir Tree	Territorial	small red	early	OP	organic seed; compact determinate plants with unusual fern-like silver leaves
Striped German	Johnny's	very large mottled	late	OP	Attractive yellow and red marbled fruit but low yield and poor flavor
Sunkist	High Mowing	medium orange	late	F1	organic seed; fruit attractive and flavorful. Developed at UNH
SVR 1400	Rupp	large red	late	EXP	bluish-green foliage and minimal branching
Taxi	Johnny's	small yellow	early	OP	determinate; heavily branched
Valencia	Johnny's	medium orange	late	OP	beefsteak

Seed sources, variety classifications, and general comments. P20-3-1 is being released as 'Indigo Rose' by Oregon State University in 2011.

Results and Recommendations – Cucumber Trial

Insect and Disease Issues: The primary insect problem was cucumber beetles, and the primary disease problem was bacterial wilt. No powdery mildew was found on any of the varieties. The cucumber beetles emerged on June 17 and remained problematic throughout the season despite repeated applications of PyGanic. The beetles hid under the cornstarch-based “plastic” mulch at night, making it difficult to control them with low-residual insecticides. Immature spotted cucumber beetles feed on corn roots, so the population may have been particularly high in the field. By July 12, all 14 varieties showed symptoms of bacterial wilt, although some varieties were less affected than others. Table 1 details bacterial wilt observations for each variety. The cucumber beetles also damaged fruit directly, causing scarring and distortion. The variety ‘Yaniv’ suffered the most from bacterial wilt, with greater than 25% of the plants killed. Other varieties with severe wilt were ‘Diva’, ‘Socrates’, and ‘Sultan’. ‘Green Finger’ had extensive cucumber beetle damage on the fruit, but only one plant with wilt symptoms, suggesting that it may be resistant. ‘SR2389CW’ suffered moderate wilt damage but recovered well, with only one plant killed. This variety also survived transplant with no losses. ‘Marketmore 76’, ‘Olympian’ and ‘Impact’ had minimal wilt damage, suggesting either resistance or a lack of preference for these varieties on the part of the beetles.

Yield: Fruit was harvested at 6-9” long and graded into marketable and unmarketable. Varieties were harvested separately and weighed on three dates representing early season, mid-season and late season (table 2). Yields have been adjusted for the initial number of plants to permit direct comparison among varieties. Fruit uniformity was rated from poor to excellent and defects were noted. ‘Marketmore 76’ and ‘SR2389CW’ had the best yield with large fruit of excellent quality. Other varieties with good production were ‘Speedway’ and ‘Impact’. ‘Socrates’ and ‘Olympian’ had respectable yields but the fruit was bulbous and distorted. ‘Diva’ had nice fruit quality but low yields, partly due to heavy losses to transplant failure and wilt.

Recommendations: Based on the results of this trial the old standby ‘Marketmore 76’ remains an excellent choice for growers, although it is a late variety and the fruit matures very rapidly so diligent harvesting is necessary. ‘Speedway’ or ‘Genuine’ would be good choices for earlier varieties although ‘Genuine’ succumbed to wilt after only a few weeks of harvest. The experimental variety SR2389CW would be a good choice for season-long production as it has excellent quality and yielded well both early and late in the season.

Table 1. Disease Data			
Variety	Transplant Losses	Death from Bacterial Wilt	Notes
Diva	15%	19%	Poor transplant recovery. Extensive wilt damage throughout.
Dominator	10%	11%	Poor transplant recovery. Extensive wilt damage throughout crop.
Genuine F1	0%	7%	Bacterial wilt present throughout crop.
Green Finger	4%	2%	Extensive damage to fruit by cucumber beetle.
Impact	3%	5%	
Indy F1	8%	14%	Poor transplant recovery.
Marketmore 76	0%	7%	Minimum wilt damage.
Olympian F1	0%	4%	Minimum wilt damage.
Socrates F1	6%	24%	Extensive wilt damage throughout crop.
Speedway	1%	7%	
SR2389CW	0%	1%	Moderate wilt damage, yet good recovery.
Sultan F1	6%	18%	Extensive wilt damage throughout crop.
Thunderbird	12%	8%	Poor transplant recovery.
Yaniv F1	6%	27%	Most plants severely hindered by wilt.

Table 2. Yield Data (lbs.) and Production						
Variety	Fruit Harvest July 6	Mid-season July 19	Late-season July 30	Fruit Uniformity	Seed Source	Notes
Diva	0.2	8.6	0	Good	Johnny's	Late
Dominator	6.8	14	1	Inconsistent	Sieger	Small plants. Inconsistent fruit size.
Genuine F1	11.9	14	0	Very Good	Johnny's	Early. Good producer until succumbed to wilt.
Green Finger	0.2	10.5	6.3	Inconsistent	High Mowing	Bulbous fruit.
Impact	0	24.4	9	Good	Sieger	Consistent fruit color, shape & size.
Indy F1	5	13.3	4.7	Poor	Rupp	Small plants. Curved, bulbous fruit.
Marketmore 76	0	48.1	14.4	Excellent	High Mowing	Fruit matures quickly

F1 d	Olympian	1.4	27 .8	7. 7	Inconsist ent	Johnny's	Small plants. Tendency to produce bulbous, curved fruit.
	Socrates F1	15. 4	28 .1	4	Poor	Johnny's	High production of bulbous fruit.
	Speedway	9.4	27 .4	8. 1	Good	Sieger	Small plants and fruit.
	SR2389CW	6.2	34 .5	12	Excellent	Rupp	Quality sizable plants and fruit.
	Sultan F1	1.7	16 .2	0	Poor	Johnny's	Small plants with low quality fruit.
	Thunderbir	0	18 .8	2. 1	Good	Rupp	Consistently nicely shaped fruit.
	Yaniv F1	0	6	0	Poor	High Mowing	Inconsistent fruit production and quality.

Significant Contributions and Roles of Project Partners

All research for this project was conducted at the University of Rhode Island/RIAES Greene H. Gardiner Crop Science Research Farm. The project was a collaborative effort between faculty (Rebecca Brown), extension staff (Kristen Castrataro), farm staff (Carl Sawyer), students (Tim Sherman, Mina Vescera, Noah Leclaire-Conway, Patrick O'Rourke, Ellen Ryan) and Master Gardeners (Hal Morpath and "Hal's Hooligans"). Rebecca Brown provided project oversight and planning. Kristen Castrataro organized Twilight Meetings and communicated the project results to farmers. Carl Sawyer supervised daily operations, and the students and Master Gardeners provided the labor force. Seed was contributed by the companies listed in the data tables.

Goals and Outcomes Achieved

The goal of this project was to identify the best vegetable varieties to grow for local market in Rhode Island and southern New England. We met those goals for tomatoes and cucumbers. The potential impacts and expected measureable outcomes described in the proposal were:

Potential Impact:

- Increase growers' ability to make informed decisions on varieties for tomatoes and other vegetables
- Introduce 30-40 growers to new vegetable varieties for local fresh market at the URI Vegetable Twilight Meeting
- Show farmers which varieties can sustain low input, addressing concerns for both organic and conventional farmers
- Demonstrate to farmers the feasibility of environmentally friendly organic farming
- Provide 15-20 URI students interested in vegetable production with an opportunity for hands-on experience
- Enable 3-5 students to learn farming skills, creating a supply of skilled seasonal labor for local growers
- Provide fresh, local produce for the Rhode Island Food Bank and local food pantries and soup kitchens

Expected Measureable Outcomes

- Five Rhode Island growers will grow at least one new variety in 2011 as a result of the trial
- Two URI students will use experience gained through this project to obtain jobs on Rhode Island farms in 2011
- 500 pounds of fresh local vegetables will be donated to the hungry in Rhode Island

A Twilight meeting featuring the variety trials was held on September 1, 2010. Seventeen farmers attended. Other farmers have taken advantage of the variety trial reports via the URI Sustainable Agriculture website. During this project 5 URI students learned farming skills and 20 students received hands-on experience in vegetable production. One of the students involved in

the project in 2010 has been hired as a permanent employee at the URI research farm as a result of this project. Two of the students are currently pursuing graduate degrees in agriculture, one at URI and another at Texas Tech University. In the period from July 1 – September 30, 2010 37,676 pounds of produce were donated to the Rhode Island Food Bank. Additional produce was donated to the food pantry operated by the Johnnycake Center of Peacedale.

We exceeded the expected outcome for produce donation. It is too soon to tell whether farmers will choose to grow new varieties in 2011 based on the results of these trials. Most of the students associated with the project in 2010 are still in school; a number of them have secured seasonal jobs on farms for the summer of 2011.

Beneficiaries

This project had three groups of beneficiaries: practicing farmers in southern New England, sustainable agriculture students at URI, and the estimated 25% of Rhode Islanders who depend on the Rhode Island Foodbank and affiliated organizations for food.

- Practicing farmers benefit from this project when they use the results of the variety trials to inform their decisions of which varieties to grow on their farms. These decisions can be economically significant but are difficult to quantify.
- Students benefit from this project through the opportunity to learn farming skills. The project funded by this grant has been leveraged with other state and federal funding to substantially rebuild the food production agriculture program at URI. We now have two undergraduate classes in vegetable production and one in fruit production. We have a graduate program and an undergraduate specialization in sustainable agriculture, and an interdisciplinary undergraduate major in sustainable agriculture and food systems is being developed. We have updated equipment and facilities at the farm, and are now providing produce grown by students to URI Dining Services.
- The people of Rhode Island benefit from the more than 18 tons of fresh vegetables provided to the Rhode Island Food Bank and affiliated organizations. The vegetables improve the diets of the food pantry clientele, and they increase the number of people the food bank can serve, as limited funding does not need to go toward imported produce.

Lessons Learned

This project has been a part of the continual effort to improve and refine our farming practices. We have identified some excellent varieties of tomatoes and cucumbers which will be incorporated into other projects. We have also learned that there is great excitement about agriculture in Rhode Island, especially among young people.

Contact Person

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Additional Information

The url for the variety trial reports on the web is
http://cels.uri.edu/sustainableag/SAG_trials.html

FINAL REPORT12-25-B-0947

Northeast Organic Farming Association of Rhode Island

247 Evans Road

Chepachet RI 02814

For the Period of: April 1, 2010 – March 31st 2012

For the Purpose of

To Provide Training in the use of organic production techniques to farmers in Rhode
Island

PROJECT SUMMARY

The purpose of this project was to provide training in the use of organic production techniques to farmers in Rhode Island. Because organic farming is a developing technology, farmers need introductory and advanced training to establish and maintain competitiveness in the marketplace. No other agency was meeting this need. The RIDEM Division of Agriculture receives new applications for organic certification every year, but some applicants do not get certified due to lack of knowledge about how to farm organically. The Division of Agriculture is not allowed to advise applicants how to produce organic crops. Specialty crops that are certified organic or grown with methods that imply sustainability are more desirable in the marketplace, resulting in increased sales for the farms providing them.

At the time the grant was awarded, Rhode Island was, and still is, experiencing a resurgence in interest in local food. Many new farms and farmer's

markets are emerging. Some of these new farmers are interested in producing crops that would cater to the population that seeks food grown with organic methods. Established organic farmers are looking to improve their skills to maintain their place in an increasingly competitive market.

PROJECT APPROACH

The project addressed the need for training in the use of organic production techniques by presenting four advanced grower's seminars and establishing an organic farm advisor program. The advanced grower's seminars featured regional experts in specialized areas of organic production. The organic farm advisor program matched experienced Rhode Island farmers with beginning farmers who desired to learn how to use organic techniques and apply for organic certification.

The following activities were performed:

Advanced Grower Seminars:

Organic Fruit Growing Seminar 5/1/2010

Presenters: Brian Caldwell (Organic Cropping Systems Project, Cornell University) and Michael Phillips (Lost Nation Orchard, Groveton, NH)

Summary: Covered all aspects of organic fruit growing including variety selection, planting, soil management, and pest and disease control, with discussion of material in the URI apple orchard at East Farm.

Organic Winter Vegetable Production Seminar 9/26/2010

Presenter: Brian O'Hara, Tobacco Road Farm, Lebanon, Connecticut.

Summary: Discussed how to grow extended season organic vegetables, primarily salad greens and root crops using low tunnels.

Cover Crops Seminar 6/22/2011

Presenter: Jim Ward, Ward's Berry Farm, Sharon, MA

Summary: Discussed uses of various cover crops in specialty crop production systems, including techniques for planting, managing, and incorporating cover crops.

Organic High Tunnel Production Seminar 2/5/2012

Presenter: Eliot Coleman, Four Seasons Farm, Harborside, Maine

Summary: Growing and marketing of organic specialty crops using unheated high tunnels.

Farm Advisor Program:

Four experienced farmers in Rhode Island were selected to be organic farm advisors: Steve Ramos, Diana Kushner, John Kenney, and Kristin Lewis. Applications completed by the advisors required them to specify areas of expertise in which they are qualified to teach beginning farmers.

The project partnered with the RIDEM Division of Agriculture for publicity, the University of Rhode Island Cooperative Extension for match funding, publicity and meeting space, Farm Fresh RI for publicity and data collection, and the Southside Community Land Trust for publicity and planning the advanced grower's seminars.

GOALS AND OUTCOMES ACHIEVED

Advanced Grower Seminars were attended by specialty crop farmers as follows:

Organic Fruit Growing Seminar: 16 farmers and 2 farm service providers.

Organic Winter Vegetable Production Seminar : 14 farmers and 2 farm service providers.

Cover Crops Seminar: 5 farmers and 2 farm service providers.

Organic High Tunnel Production Seminar: 34 farmers

Organic Farm Advisor Program: Eight beginning farmers applied for and received assistance: Blue Skys Flower Farm, Scratch Farm, Next Door Organics, Barden Family Orchard, Frog Hill Farm, Roots, Farm, Sweet Berry Farm, and Mount Hope Farm. A total of 45.5 hours of advising occurred, with an average of 5.6 hours per farm advised.

The number of certified organic specialty crop farms remained the same at 24 farms from the beginning to the end of the grant period. We had hoped that this project would show an immediate increase in the number of certified organic specialty crop farms. At the start of the project, the Farm Fresh RI website (www.farmfreshri.org) listed 24 farms that sell specialty crops identified as "chemical free", "IPM", or "organic-not certified". At the end of the project, 46 such farms were listed, indicating that the number of farms marketing specialty crops grown with organic methods but not certified organic approximately doubled during the grant period.

BENEFICIARIES

Evaluations completed by program participants showed that 61 seminar attendees and 6 advised farms expected increased productivity and profitability of their specialty crop farms in at least one of the following ways: improved farm sustainability, increased marketable yields, addressed concern for your own or your customer's health, making products more desirable in the marketplace, and higher prices for products. Summaries of evaluations are attached. Only six out of eight farms participating in the advisor program submitted evaluations.

University research and extension personnel attended some of the advanced growers seminars, which will result in transfer of information to additional farmers. Two of the seminars and one of the advisor relationships included training on high tunnel growing, which benefitted farms that participated in the NRCS cost-share program for high tunnels.

LESSONS LEARNED

Advanced growers seminars-use of some local speakers with lower travel and speaking costs allowed extra funds to be used for the seminar with Eliot Coleman. Using a variety of outreach methods and collaboration with other organizations for publicity reached attracted more participants.

Farm advisor program-We anticipated that the advisees would desire a season-long mentoring relationship with their advisors. It turned out that most of them just wanted short-term help with specific areas. We had to increase the pay for advisors from \$20 per hour to \$30 per hour to get farmers to apply to be advisors.

CONTACT PERSON

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ADDITIONAL INFORMATION.

Organic Fruit Growing Workshop Evaluation Results

Attendance: 18

Surveys received: 9

1. Number of acres in fruit trees or number of trees:

2 acres
50 trees
14 acres
none
none
none
250 trees
45 trees
2 acres

2. Is your farm certified organic? 6 no, 3 yes.

3. Do you plan to plant a new orchard to be managed using techniques learned at this workshop?

6 yes, 3 no

4. Do you plan to begin using techniques used at this workshop in an existing orchard?

3 yes, 6 no. (Two respondents that answered no to no. 3 answered yes to no. 4. Only one respondent answered no to both no.3 and no.4.

Reasons why you plan to use techniques learned at this workshop on your farm:

5. To improve the sustainability of your farm: 7 yes, 2 no

6. To increase marketable yields of fruit crops on your farm: 8 yes, 1 no

7. Concern for you own or your customer's health: 8 yes, 1 no

8. To make your products more desirable in the marketplace: 8 yes, 1 no

9. To justify charging a higher price for your products: 4 yes, 5 no

10. If your farm is not currently certified organic, are considering becoming certified? 4 yes, 2 no

11 Would you like an organic crop advisor to come to your farm and help you implement new organic production and marketing methods? 9 no

12 Would you attend similar workshops in the future? 9 yes.

Winter Vegetable Growing Workshop Results

28 People attended

21 Surveys received

14 Farmers

5 Gardeners

2 University staff & faculty

Farmer Responses:

2. On my farm, I currently use the following for winter growing;

Row covers: 8 Low Tunnels: 6 Unheated High Tunnels: 4 Other: 2
none: 3

3. Do you plan to

Use techniques learned at this workshop to begin producing winter vegetables: 4

Use techniques learned at this workshop to increase/improve your production of winter vegetables: 7

Which techniques are you planning to use:

High tunnel (3), low tunnel (2), row cover(2), late seeding (1), soil fertility(1).

4. Reasons why you plan to use techniques learned at this workshop on your farm:

To improve sustainability of your farm: 11

To increase the marketable yields of vegetables grown on your farm.: 12

To extend your harvest and marketing season: 14

To achieve a higher price for your vegetables: 4

5. Overall usefulness:

5: 12 (very useful)

4: 2

3: 0

2: 0

1: 0 (not useful)

6. Most valuable thing learned:

Low tunnels are more effective than high tunnels.

How to start winter growing.

Winter growing theory.

How to grow year-round with row tunnels.

Growing winter annual crops in fall.

Planting for overwintering.

Low tunnel crops.

Using perforated plastic under regular plastic.

Low cost alternatives to growing in heated greenhouses.

Practical approach to basic problems.

Techniques for crop scheduling and growing techniques.

Potential chemical contamination of hay, straw, and manure.

The difference between crops that can be extended through fall and started in December for early spring production.

NOFA-RI

Cover Crops Seminar Evaluation Summary

Thank you for taking a moment to assist us in improving our programming.

1. How would describe yourself?

 4 Specialty Crop Farmer (commercial producer of fruits, vegetables, nuts or horticulture)

 2 Ag service provider

 Other (explain)

2. On my farm, I currently use the following cover crops:

 3 rye 4 vetch 3 clover 3 oats 4 buckwheat

 other:

3. Do you plan to:

___ Use techniques learned at this workshop to begin using cover crops?

___6___ Use techniques learned at this workshop to increase or improve your use of cover

crops?

4. Please check all reasons why you plan to use techniques learned at this workshop on your farm:

___6___ To improve the sustainability of your farm.

___2___ To increase the marketable yields of specialty crops grown on your farm.

___1___ To achieve a higher price for your specialty crops.

___1___ To make your specialty crops more desirable in the marketplace.

5. Please rate the overall usefulness of the winter vegetable growing workshop.

Not useful 1 2 3 4 5 Very useful
(4) (1)

6. What was the most valuable thing you learned today?

seeding rates and techniques, managing sudan with small equipment, incorporation, timing, uses for cover crops.

Eliot Coleman Advanced Grower's Seminar Evaluation Summary
February 5, 2012

Thank you for taking a moment to assist us in improving our programming.

I am a: ___34___ Farmer ___0___ Ag. service provider Other
(explain) _____

As a result of this seminar, will you:

___9___ begin producing and marketing specialty crops (vegetables, herbs, fruit, etc.) that are

organic, chemical-free or IPM?

___17___ increase your production and marketing of specialty crops (vegetables, herbs, fruit, etc.)

that are organic, chemical-free or IPM?
 ___15___ begin using high tunnels to produce organic, chemical-free or IPM specialty crops?
 ___16___ increase your use of high tunnels to produce organic, chemical-free or IPM specialty crops?
 ___12___ begin participating in a winter farmer's market?
 ___9___ increase your participation in a winter farmer's market?

Have you already, or do you plan to participate in the NRCS High Tunnel program? 23 Yes or 7 No

Please check all reasons why you plan to use techniques learned at this workshop on your farm:

- ___26___ To improve the sustainability of your farm.
- ___29___ To increase the marketable yields of vegetables grown on your farm.
- ___20___ To protect your own or your customer's health by producing safer food.
- ___30___ To extend your harvest and marketing season.
- ___13___ To achieve a higher price for your vegetables.

Please rate the overall usefulness of the Eliot Coleman High Tunnel Seminar:

Not useful	1	2	3	4	5	Very useful
			1	6	26	

What was the most valuable thing you learned today?
 mobile hoophouses (3), endwall ideas (2), innovations in tunnel design (4), modular hoophouse, greater efficiency, plant spacing (2), root crop ideas, planting dates (2), crop rotation, organic values, experimentation, crop selection (2), efficient tools, crop storage, profitability,

Do you have any suggestions for future seminars?
 more advanced, composting, sustainability, fertilizer management & sources, microgreens,
 Kempf

NOFA/RI Organic Farm Advisor Program
Advisee Evaluation Summary

2010-2012 Summary of Responses. Evaluations received from 6 participants: Blue Skys Flower Farm, Scratch Farm, Frog Hill Farm, Roots, Farm, Sweet Berry Farm, and Mount Hope Farm.

1. Check all areas for which you have received assistance:

- ☐ 4 vegetables
- ☐ 4 leafy greens
- ☐ 3 herbs
- ☐ 1 small fruit
- ☐ 1 tree fruit
- ☐ 2 seedling production
- ☐ 2 greenhouse growing
- ☐ 3 soil fertility
- ☐ 2 cover crops
- ☐ 4 pest and disease control
- ☐ 2 weed control
- ☐ 1 season extension
- ☐ 1 post harvest handling
- ☐ 2 marketing of organic crops
- ☐ 2 crop rotation
- ☐ 4 whole farm planning
- ☐ 4 business planning
- ☐ organic certification
- ☐ 1 record keeping
- ☐ (1) other: tractor use

2. List any specific skills you have learned from your advisor(s):
use of tractor and implements (2); producing salad greens; applying for organic certification; soil enhancement, garden planning, raised beds, and tools; high tunnel crops, planting schedule, applying for NRCS assistance

3. Which of the following results have you achieved as a result of participating in this program? (check all that apply)

- ☐ 4 Improved the sustainability of your farm:
☐ 4 Increased marketable yields:
☐ 1 Reduced concern for you own or your customer's health:
☐ 5 Produced products that are more desirable in the marketplace:
☐ 2 Justified charging a higher price for your products:
☐ 5 Produced crops that you can label and market as certified organic, organic, IPM, or chemical-free?
☐ 1 Other: increased efficiency in field planning

5. Please answer the following questions by circling the appropriate number.

- | | | | | | | | |
|---|----|---|---|---|-----|-----|------|
| Was your advisor available when needed? | No | 1 | 2 | 3 | 4 | 5 | Yes |
| | | | | | (1) | (5) | |
| Was your advisor knowledgeable about topics you needed help with? | No | 1 | 2 | 3 | 4 | 5 | Yes. |
| | | | | | (1) | (5) | |
| Was your advisor courteous and professional? | No | 1 | 2 | 3 | 4 | 5 | Yes |
| | | | | | (6) | | |
| Has your advisor(s) helped you achieve your goals? | No | 1 | 2 | 3 | 4 | 5 | Yes |
| | | | | | (1) | (5) | |

5. Do you plan to:

- ☐ (1) Use techniques learned from your advisor to begin commercial production of specialty crops?
☐ (5) Use techniques learned from your advisor to increase or improve your production of specialty crops?

6. Please rate the overall usefulness of the organic farm advisor program.

(5) Not useful 1 2 3 4 5 Very useful

7. Do you have any suggestions for improvement of the organic farm advisor program?

None

**Rhode Island Farm Viability - Specialty Crop Grant 12-25-B-0947
Final Report – May 2012**

Enhancing the Competitiveness of RI Specialty Crops (RIDAG – 101)

Submitted by Project Manager: RI Land Trust Council

Rupert Friday, Director

PO Box 633; Saunderstown, RI 02874

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Applicant: Third Sector New England is fiscal sponsor for RI Land Trust Council

Lincoln Plaza, 89 South Street, Suite 700; Boston, MA 02111

Project Summary

Background – Why the RI Land Trust Council surveyed land trusts’ about their farmland conservation activity.

The state’s loss of farmland to development over past decades helped to motivate citizens to form land trusts - organizations with a mission of protecting land. Today, there are over 45 land conservation organizations in communities across the state and many are working to protect agricultural lands and the agricultural character of their communities. Collectively, land conservation organizations have protected over 30,000 acres in Rhode Island. Some of this protected land is suitable for growing fruits, nuts and vegetables and other specialty crops. Before this project, anecdotally, we knew that some land trusts in the state already lease their protected farmland to farmers, and other land trusts grow vegetables, fruits and nuts on their protected lands. Because land trusts are committed to permanently protecting land, their protected lands are especially suitable for specialty crops such as tree crops that require long-term investments and related long term lease agreements. (Several land trusts have chestnut tree nurseries on their properties.) We believe that there is an opportunity to expand this role for land trusts. Land trusts can provide farmers with access to protected lands at affordable rates to increase the state’s agricultural production and competitiveness for vegetables, fruits, berries and other specialty crops. In this way, land conservation organizations could address one of Rhode Island’s most limiting agricultural competitiveness factors: access to land at affordable costs.

In 2008, RI Land Trust Council (Council) led the campaign for a state open space bond. The strongest political and public support for that bond was to provide funding for farmland conservation.

Thus, the Council partnered closely with the state's agricultural community to promote the bond. During that bond campaign, the Council heard concerns about farmland conservation and we heard about some innovative practices that a couple of land trusts were taking to protect farmland and keep it in production.

The 2008 Bond campaign instigated the Council's efforts to improve farm conservation practices in Rhode Island. This initiative was fueled by a suggestion from the leadership of the van Beuren Charitable Foundation that the Council organize a charrette to discuss the state's farmland conservation issues. The Council held that charrette in February 2010 and a major discussion topic was 'how to keep farmland in production once it is protected.' In 2010, the Council also worked as a member of the Agriculture Partnership to develop a 5 year strategic plan for agriculture for Rhode Island. During the charrette and "listening sessions" held by the Agriculture Partnership, the Council again heard concerns that land trusts were 'protecting' farmland by purchasing it and then 'taking it out of production.' These anecdotal reports were the first catalyst for the Council to survey land trusts about the farmland they were protecting.

The RI Department of Environmental Management – Division of Agriculture Specialty Crop Enhancement Program provided the perfect opportunity to survey land trusts about the farmland that they own and their management of those properties as well as their farmland conservation activities. In December 2010, the Council became part of Land for Good's "Land Access Project." This is a New England wide effort to increase the acreage of farmland land that is available for farmers to cultivate. The Council is participating in the non-traditional landowners committee. This project and survey were informed by the Council's participation in that project.

Prior to this project, there was little understanding about the amount of agricultural land protected by land trusts, existing management activities or agricultural production on protected land. Nobody in the state knew how much farmland the land trusts own. We knew that several land trusts had a mission or top priority of protecting farmland. We also knew that several land trusts were supporting the growth of American-Chestnut orchards. Land trust properties, in concept, appear to be particularly well suited for growing specialty crops. Some specialty crops only need a small acreage. Other specialty crops, such as berries and trees, require long term cultivation – measured in years. Land protected by land trusts has a long term management horizon and may provide great situations for encouraging the cultivation of these crops. The survey conducted for the 2009 Specialty Crop Enhancement Program gave the Council the opportunity investigate the concern that we heard from farmers – their belief that 'land trusts were buying farmland and taking it out of production.'

If land trusts did not have farmland they owned in production, what barriers prevent them from placing and keeping land in production. We believed that one of the barriers is the absence of a mechanism for linking farmers with protected lands and the limited capacity of land trusts (most are entirely volunteer organizations) to connect with farmers and draft lease agreements for agricultural production on their protected lands. This project was designed to address these needs and to identify opportunities for increasing farmer's access to land protected by land trusts for growing vegetables, fruits, berries and other specialty crops; keep farmland protected by land trusts in production; and increase the sustainability of agriculture in Rhode Island by increasing the state's competitiveness for producing specialty crops.

Problem to be addressed by this project and its importance.

Rhode Island is the smallest and second most densely developed state. Thus, the amount of farmland available for production is very limited – only 67,800 acres in the most recent agricultural census (down from over 300,000 acres in the 1940s). Further the value of farmland averages 16,828 per acre and is the highest in the nation. Thus, the limited supply of farmland and high land costs are two of the greatest competitive challenges for agriculture in Rhode Island. These factors limit the economic viability of farming in the state and are a major barrier to farmers who are interested in starting new operations or expanding existing operations. There is also little support available for the land trusts that wish to put their land in agricultural production. This project addresses these needs.

This project was especially timely because it complements the work of the RI Agricultural Partnership and helps to implement the 5-year strategic plan for agriculture in Rhode Island. Specialty crops and direct farm sales are growth areas for agriculture in Rhode Island. Discussions with beginning and established farmers documented that one of the greatest challenges they face when farming in Rhode Island is finding land to farm. Increasing farmers' access to suitable land for specialty crops is essential to continue the growth in agriculture.

Project Approach

The Rhode Island Land Trust Council (Council) surveyed land conservation organizations in Rhode Island to document: how many acres of farmland they own; existing management and agricultural production of specialty crops on protected lands; and barriers that prevent land trusts from putting/keeping their land in production. The survey also documented strategies and systems that land trusts and farmers are finding effective for keeping protected land in agricultural production. The funding from the specialty crop grant was solely used to survey land trusts about specialty crops and to enhance competitiveness of specialty crops. The project received additional funding from a foundation and all work related to non-specialty crops – ie. surveying land trusts about other agricultural land they own and its management was funded by these other grants and not by the Specialty Crop Grant.

The Survey – the approach we took and questions we asked.

The survey of land trusts was conducted in two ways: mailed survey questions and phone interviews. Questions about land trusts' ownership of farmland and protection of farmland with conservation easements were included in a survey distributed to all land trusts by mail and email. Because of the surprising responses we received to the mailed surveys about farmland ownership and because we wanted to gain a more detailed understanding of land trust leader's perspectives about farmland conservation and management. The Council's Director conducted in person and phone interviews of leaders from nearly every land trust in the state including every land trust that has protected farmland. The questions asked during the interviews were:

- Does your land trust own land that is currently farmed, recently farmed or could be farmed? Including orchards, berries, and tree crops such as nuts.
 - How many properties, size of each and current management?
- What barriers do you face to keeping your land trust from putting/keeping land in production?
- Is your land trust interested in helping to protect farmland so that it can be kept in production?
- Do you have conservation easements that protect farmland?

The RI Land Trust Council also interviewed leading farmland conservation organizations in New England and promoted strategies and systems that land trusts find helpful keeping land in production for specialty crops.

Goals & Outcomes Achieved

Activities completed in order to achieve the performance goals and measurable outcomes for the project. The Council:

- Surveyed land trusts about agricultural land they own and then interviewed stewardship leaders for all land trusts in Rhode Island as well as The Nature Conservancy and Audubon Society of Rhode Island;
- documented the status of farmland protected by land trusts and other land conservation organizations;
- documented the barriers that prevent land trusts from putting/keeping protected farmland in production;
- researched best practices and successful models from other states and developed a handbook for land trusts, municipalities and institutions in Rhode Island on leasing farmland to farmers that includes model documents;
- conducted 3 workshops for land trust leaders on protecting farmland and leasing the farmland that they are protecting;
- distributed the handbook developed and other information to all land trusts stressing the important role they play protecting farmland and keeping it in production and helping new farmers and expanding farmers find land to farm. The information distributed, workshops and the Council's agriculture sustainability initiative have raised awareness of land trust leaders about the urgency of protecting farmland in Rhode Island and keeping protected farmland in agricultural production.
- determined that, in most cases, land trusts do not need a land linking program for finding farmers but this could be helpful for linking land trusts with specialty farmers interested in growing nut trees and other uncommon specialty crops that are compatible with land conservation goals and management strategies;
- is partnering with Land For Good on a New England land linking program;
- is partnering with two land trusts that own farmland and exploring options and developing strategies, systems and support assistance for helping land trusts address the barriers they face for putting their farmland into production for specialty crops.

The Council learned that the vast majority of new farmers and farmers looking to expand their operations in Rhode Island are growing specialty crops. This is due to a growing market for specialty crops and a high market value in a state with very high farmland costs. The Council collaborated with Land For Good on the handbook for leasing farmland. We are also collaborating with them on a New England land linking program that will help land trusts find farmers when they have land to lease.

Comparison of Accomplishments to Goals & Expected Measurable Outcomes.

1. Completed inventory of:

- acres of farmland owned by land trusts and farmland protected by land trusts (conservation easements);
- existing management of land trusts' protected land for production of specialty crops;
- potential for additional acres of land trusts' land where specialty crops could be grown and identification of the land trusts with the best potential properties for growing specialty crops.

This Goal was completed – we inventoried land trusts and documented which own farmland and protect farmland with conservation easements as well as existing management for specialty crops and potential additional land that could be used for specialty crops.

List of barriers that prevent land trusts from putting/keeping protected farmland in production.

2. List of barriers that prevent land trusts from putting/keeping protected farmland in production.
This Goal was completed and the barriers documented are later in this report.
3. Compilation of “best practices” that land trusts use for linking with farmers and putting/keeping their protected agricultural land in production. This will include model documents such as easements and lease agreements with language to facilitate sustainable agricultural cultivation of protected lands (from survey/interviews and from research of models in use in other states).
This Goal was completed and best practices for land trusts leasing farmland along with model documents have been prepared into a handbook for land trusts and municipalities.
4. Information distributed to land trusts and available to land trusts that fosters their putting/keeping their protected agricultural land in production. Model documents and best practices will be shared through workshops, e-news, and website library.
This Goal was completed. We prepared a handbook and distributed this to land trusts. We also had several workshops for land trusts stressing the need for land for specialty crops and providing guidance on leasing their farmland and keeping it in production. The handbook is being formatted for publication and will be posted on the Council’s website when that is complete.
5. System initiated for linking interested farmers with land trusts that have land available for growing specialty crops.
We have not initiated a system for linking farmers with land trusts for two reasons: first, we learned that very few land trusts have farmland that is not already in production. Further, land trusts already are linked to farmers in their communities and approach them directly when they have land and are looking for a farmer. Second, Land For Good is establishing a New England wide land linking system. We decided it was a more prudent use of limited funding to partner with their program instead of replicating the effort for a very limited number of land trusts that would use such a system.
6. 1 & 2 years after this project is completed, there will be an increase in the number of acres & parcels of land protected by land trusts that are in agricultural production for specialty crops.
As a result of this project there are already two land trusts that are shifting land into production for specialty crops. This land had previously been in use for hay and wildlife habitat. This transition is in progress and the number of acres and parcels is not yet determined. This project developed a baseline inventory so that we will know it’s impact over time.
As a result of this project, the Council held 3 workshops attended by land trust and municipal leaders to learn about leasing farmland they own. These workshops were well attended and will lead to future leasing of land for specialty crops.
7. 1 & 2 years after this project is completed, there will be an increase in the number of farmers who are growing specialty crops on protected farmland.
This goal is still in progress. It is clear that at least two land trusts will be leasing land to farmers for specialty crops and it is likely that both land trusts will end up supporting farmers who are beginning new farms.

Work Plan Comparison to Accomplishments

1. Develop interview questions for surveying land trusts. – *Completed as planned.*

2. Research best practices/successful models from other states of keeping/putting protected agricultural land in production. – *Completed as planned.*
3. Interview leaders from Rhode Islands 45 organizations. - *Completed as planned.*
4. Compile interview/survey results. – *Completed as planned.*
5. Establish a system for connecting farmers - *Revised workplan based on survey findings and regional effort to establish a land linking program.*
6. Conduct workshops for land trusts to share best practices and model documents – *Completed as planned.*
7. Explore opportunities for extending this project to farmland protected through the state's agricultural preservation program. – *Ongoing. In particular we are extending the project through collaboration with Land For Good project that is adapting the handbook for land trusts for all of New England and is developing a land linking program for New England. We have met with the Agricultural Land Preservation Commission to discuss strategies for keeping farmland protected through their program in production. We shared models and best practices from other states with them. This discussion is ongoing. As s separate project, RIDEM surveyed farmers with land protected through the program to identify potential for increasing the acreage in production for specialty crops.*
8. Explore options for addressing the land trusts barriers to putting/keeping agricultural land in production for specialty crops. – *Ongoing. We are working with two land trusts to develop strategies for addressing the barriers they encounter.*

Details of Outcomes

Survey of farmland held by Land Trusts. Findings:

25 of Rhode Island's land trusts are protecting farmland and keeping it in agricultural use (including Audubon Society of RI and The Nature Conservancy). **Four additional land trusts protect farmland with conservation easements.** More than half - **14 of 25 land trusts (56%) that own farmland - are already leasing their farmland for specialty crops.** While most of the farmland owned by land conservation organizations is in agricultural production, some of the land is managed for hay that could be managed for specialty crops. In addition some farmland is managed for habitat. Only a few agricultural parcels owned by land trusts are not in active production. And most land trusts are interested in helping to protect the remaining farmland in their area so that it can be kept in production.

Summary of Survey Findings:

- 25 of Rhode Island's land conservation organizations own farmland
- 4 additional land trusts hold conservation easements that protect farmland
- Farmland is leased and managed as follows:
 - 14 properties leased for **specialty crops** (approximately 264.25 acres)

Specialty crops being grown on land trust properties include:
greens and vegetables, fruit and nut trees, grapes, blueberries, blackberries, cut flowers, witch hazel and Christmas trees. Much production is organically grown.

Properties not currently in use for specialty crops but with the potential for growing specialty crops include:

- 21 properties leased for **hay** (approximately 623 acres)
- 7 properties leased for **grazing/pasture** (approximately 134 acres)
- 3 properties leased for **corn** (approximately 122 acres)
- 1 property leased for **potatoes & squash** (63 acres)
- 11 properties managed for **wildlife** (approximately 134 acres)
- Land Trusts reported **only 4 properties** that were **not in production** and could be farmed (approximately 56 acres) - some of this is being managed for wildlife habitat

Major themes that surfaced from the surveys:

- Many land trusts in Rhode Island have a primary focus or priority to protect farmland. Some land trusts noted that although farmland conservation is a priority, they have had little success in protecting farmland compared to their success protecting other lands.
- Land trusts only have a general idea about how much farmland they own and protect.

Land that is in agricultural production is typically a small portion of farms and not well quantified. As with farms statewide, only a small portion of properties owned by land trusts are in agriculture use and management and other areas are in wetlands and forest. Thus, most land trusts that own farmland or hold conservation easements that protect farmland do not have good information about the amount of the land that is actually in agriculture uses. While they know the size of the properties, they only have a general idea about how much of the property (acres or percent) is in production. Further, agricultural use on farmland is fluid. Fields shift between hay, pasture, corn and other crops. Land Trusts do not actively track what farmers are producing on the properties they lease so there is not accurate information about the number of acres in use for various agricultural crops.
- In the past, land trusts often protected land including farmland to manage it for habitat and other ecological values. Thus, some land trusts do not think of the land they own as farmland. This trend was due to the land trusts' missions and culture and was influenced by The Nature Conservancy which, for many years, helped citizens around the state to form land trusts and provided them with technical assistance on land conservation. The Nature Conservancy's mission is protecting habitats that support biodiversity. Thus, when they protected farmland it was to further the biodiversity mission and not to sustain agricultural production. While a few land trusts have long protected farmland as part of their mission to keep it in production, many land trusts' awareness of the need to protect working farmland and keep farmland that they are protecting in production has been increasing in recent years.
- With very few exceptions and land intentionally managed for habitat, farmland owned by Rhode Island's land trusts is currently in production. Many land trusts already lease land for specialty crops. Some of the specialty crops are long life-cycle tree crops including fruit trees. Three land trusts have chestnut plantations. Other land trusts have land being managed for hay and traditional crops.
- When land trusts acquire farmland, it is most often with one of the two following situations:
 - Most land trusts that own farmland "inherited" the farmer who was farming the land when the land trust acquired the properties. In many cases the farmland management has continued as it was before the land trust owned the land. Further, the agreements that land trusts have with farmers are often informal - many farmers that are using land trust properties do not have formal leases. Land trusts are reluctant to change management of farmland they acquire because they do not want to risk harming their relationships with prior landowners and farmers in their community. The land trusts

also “know what they are getting” by allowing the current farmer to continue their existing operations.

- The land has been out of production for a number of years when the land trust acquires it and the fields are overgrown by invasive shrubs and regenerating forest. It is expensive to clear this farmland and restore it to production. Anecdotally, farmers tell the Council that the farmland that has re-grown to forest is likely to be less productive farmland. They believe that, if it was productive, it would have been kept in production. However, there is likely some former farmland protected by land trusts with various stages of woody vegetation regeneration that, if cleared, could be used for specialty crops such as berries and trees.
- Much of the “farmland” owned by land trusts is currently managed for hay. This was often the use the land was in when it was acquired by the land trust. In some cases, land trusts know that land currently in use for hay and traditional crops could be used more protectively for specialty crops. The Council is working with one land trust to help facilitate this transition. However, traditional management for hay and corn and several other barriers preclude the transition of uses on many properties.
- In many cases the land trust is getting little or no lease payment for the hay. It is likely that the farmers who are cutting the hay from land trust properties are not fertilizing the fields or otherwise investing in maintain the land’s productivity.
- Management of land trust owned properties by farmers, through lease and informal agreements, reduces land trusts’ costs and management burdens for those properties.
- Through this survey we learned about many farms that are owned by municipalities. Some of the municipal owned farms are managed to maintain agricultural production. However, some municipalities view the farmland in agriculture as a temporary management strategy and ‘land banks’ for future ball fields.
- There are many innovative initiatives that are keeping protected farmland (owned by towns and non-profit organizations) in production around the state. Many of these farms are being used for specialty crops.
- Several land trusts have “orchards” for American Chestnuts. The model used by the American Chestnut Foundation suggests a successful strategy for encouraging land trusts to manage more land for specialty crops such as tree crops and berries. The author of this report believes that tree crops and berries might be more compatible with some land trusts’ missions and self images than agriculture which requires more intensive soil cultivation and other more active management practices.
- This survey of land trusts only found one land trust that was looking for a farmer to lease their agricultural land. Most land trusts that have needed to find a farmer to lease their land contact farmers who are farming their other properties or nearby properties in their community. The survey found that land trusts do not need a land link program to help them find a farmer in most cases. In fact, most of the land trusts have already been approached by farmers looking for land to farm. However, there is no good system to help land trusts connect with farmers who want to raise nut trees and other specialty crops that might be suitable for some land trust properties. Land Trusts’ interest in and support of chestnut groves indicate this potential for connections and increasing production of some specialty crops.

Barriers to putting/keeping protected land into production for specialty crops. From our interviews of land conservation leaders who are responsible for stewardship of protected agricultural

land we learned there are many barriers to putting/keeping protected farmland in production for specialty crops as follows:

- The top issue for land trusts managing farmland they protect is that farmers and farmer relationships are “inherited” when the land trust acquires a property. In the majority of cases the farmer is using the property for hay, pasture or traditional crops and not necessarily the highest and most productive uses of the land. Former landowners were leasing the land for basic maintenance. Land trust leaders are reluctant to change the ongoing arrangement with existing farmer, to establish formal lease agreements or to pursue more productive agricultural activities. The land trusts fear the political ramifications and the risk that the community perception of the land trust will be harmed if they make a change. The situation is even more difficult because in most cases the farmer only has an informal and verbal agreement with the prior landowner and with the land trust and not a formal lease.
- A second major barrier is created because many, perhaps most, land trusts have RIDEM open space conservation easements on the farmland they acquire. Other restrictions in the deed or conservation easement adopted when the land was acquired also prohibit or severely limit agricultural activity. For example, one farm was donated to a land trust with a life estate for the existing farmer but with restrictions that prevent that land from being farmed by other farmers. Thus, farming will end when the farmer with the life estate dies. Another farm was donated to a land trust with restrictions that even prohibit them from planting fruit trees. Other land trusts partnered with The Nature Conservancy and/or RIDEM and/or water suppliers to protect farms. These partner organization recorded conservation easements with language requiring the farm be managed for habitat or language that hinders agriculture and limits the agricultural activities that are permitted. One land trust leader interviewed was concerned that the standard RIDEM open space easement includes language that hinders agricultural activities on the farmland they have acquired.

Much farmland protected by land trusts was acquired before there was wide awareness by the land conservation community that farmland was in short supply in the state. Further, the culture of the state’s land conservation community has been to focus on habitat conservation. Thus, RIDEM easements are written from the perspective of protecting habitat and other environmental conditions and restrict the management and use of the land in ways that create barriers to its use for vegetables and other specialty crops. For economic viability, farmers need to be able to: develop water supplies; install fences to protect crops from predators; build other facilities such as hoop houses that extend the growing season; and have sheds/shelters on site or nearby for storing tools and farming supplies. These facilities are especially important for specialty crops. Most RIDEM open space easements prohibit the farmer and land trust from making changes to the protected lands. to provide these facilities.

- Lack of water, fencing (to keep agricultural animals in as well as to keep wildlife out of crops) and shelter (for equipment and/or animals) on the property hinder its use for agriculture. As previously noted, many conservation easements prohibit construction of buildings and some prohibit installation of fences, tilling soil, planting trees, etc. These facilities and activities can be especially important for production of some specialty crops.
- Land acquired by land trusts has already been out of agricultural production for many years and is overgrown with brush, vines and invasive species and/or regenerating to forests before the land trust acquired the property. Most land trusts do not view this land as farmland and thus do not envision its management for agriculture. Clearing land for agricultural use is expensive. Land trusts do not have the funding to clear the land and return it to agricultural production and farmers leasing land do not have the funding to clear land.

- NRCS and RIDEM are encouraging land management for early succession habitat. Thus, they are providing land trusts with fiscal incentives and technical assistance to clear overgrown farmland to create and manage early succession habitat. However, there is not similar technical assistance or grant support for restoring prime farmland to agricultural production.
- Concerns about the land trust's image and reputation. Land Trusts worry that if they lease their land, the farmer might do things or manage the land in a way that creates a conflict with neighbors and/or creates a negative perception of the land trust.

Secondary barriers to putting/keeping farmland in production are:

- The land trust does not know the agricultural uses for which the farmland they own is best suited and they do not have access to advice about agricultural uses and management or the limited impacts of cultivating some specialty crops on the environment.
- The mission and leadership culture of some land trusts have a primary focus on protecting habitat, scenic landscapes and other environmental assets such as water quality. They perceive that maintaining farmland in production and agriculture are in conflict with that primary mission.
- Limited access to the agricultural land from a road.
- Cost of legal advice for both the farmer and land trust to write well crafted leases that support long term and sustainable agricultural use of a property.
- In a few cases, land trusts do not have experience leasing farmland. The land trust lacks the knowledge and does not have a process that they would need to go through to find a farmer and lease their land. They also lack the capacity to properly manage a lease and tenant.
- Sensitivity to neighbors. In one case the neighboring landowner is a farmer who is very difficult to work with. This is a barrier to the land trust putting their land in production. In other cases, the neighbors' perceptions are that the land trust owns the property and they view it as protected open space adjoining their land and not necessarily as an active farm. When the land is leased to a farmer, these neighbors may dislike agricultural activities just as other farmers encounter with their neighbors.
- Some land trusts' agricultural properties would be well suited for specialty crops such as berries or tree crops etc. and the land trust is more than willing to have the property in that use. Yet, the land trusts do not know the farmers looking for properties that are suitable for growing tree crops and other specialty crops that require less intense cultivation and management. A farm-link program strategy for unique properties would help land trusts connect with these farmers that want to grow tree crops and other less common specialty crops.

Compilation and sharing "best practices" for linking with farmers and putting/keeping their protected agricultural land in production.

The Council learned several "best practices" that land trusts use for leasing the farmland they own to farmers from our interviews of land conservation leaders with extensive experience leasing farmland. We also interviewed leaders from Trustees of Reservations and Franklin Land Trust in Massachusetts, Peconic Land Trust on Long Island, Southeast Massachusetts Agriculture Partnership, American Farmland Trust and Land For Good – organizations with extensive experience and expertise in protecting farmland and leasing it for agricultural production of specialty crops. We learned that a guide had recently been developed in Connecticut on leasing land to farmers. Land For Good initiated a regional process for improving farmers' access to farmland and the Council joined that initiative as a partner. Thus, we had access to a breadth of knowledge and experience from across New England for our

agricultural sustainability project including this specialty crop grant. The Council revised the Connecticut guide and tailored it to Rhode Island's land trusts and municipalities. As part of this process, we developed a checklist to help guide land trusts, municipalities and institutions through the process of leasing farmland they own for farming.

Since January 2010, the Council conducted 3 workshops for land trust leaders on protecting working farmland and leasing farmland they have protected for agriculture. These were:

March 27, 2010 Land & Water Conservation Summit Workshop
Leasing Your Protected Farmland for Agriculture

Kathy Ruhf – Land for Good

Pat McNiff – Casey Farm, Historic New England

This workshop discussed the issues of: once you have protected farmland, how do you keep it in production? How do you craft a lease that works for both the land trust and a farmer? And how do you find the right farmer? This workshop was designed to help land trust leaders think about how to successfully lease the farmland that their land trust has protected to keep it in production and manage it as a working landscape.

March 26, 2011 Land & Water Conservation Summit Workshop
Partnerships in Protecting Farmland

Joanne Riccitelli – South Kingstown Land Trust (SKLT)

Mike Moorman – USDA, Natural Resource Conservation Service

This workshop used the Carpenter Farm, as a case study to describe how land trusts can protect working farms. They discussed the step-by-step process for: negotiations with the landowner; partnering with NRCS and Federal and State funding programs for farmland protection; raising matching funds; the roles and responsibilities of land trusts; project timing; and what the federal and state programs need. They discussed how farmland easements need to differ from conservation easements in order to sustain the economic viability of farms once they are protected. SKLT has worked with NRCS to protect many farms and over 300 acres of farmland. Several properties that SKLT protect are being used for specialty crops. The land trust features locally grown produce from their properties at an event they hold each year called: Taste of Matunuck."

October 27, 2011 Workshop
Managing Farmland & Leasing to Farmers

This workshop was targeted for land trusts and municipalities. We presented the handbook for leasing farmland to farmers. The workshop discussed: issues and challenges land trusts, municipalities and institutions face managing farmland; considerations and benefits of leasing their farmland to a farmer; "how to's" if you decide to lease your farmland to a farmer; and funding and technical assistance to help them with stewardship of their farmland and to improve its suitability for agricultural production.

These workshops were all well attended and received great evaluations. The Council has also distributed reports from the forum we held *FarmRI 2.0: crafting the next generation of initiatives for saving Rhode Island's working farms* to land trusts around the state. This report and a video Agriculture in Rhode Island have increased land trust awareness of agriculture issues and the pressing need to protect farmland and keep it in production. This information also stresses the growing demand from farmers for farmland.

Beneficiaries

There are three groups of beneficiaries to this project:

1st. Land Trusts - As a direct result of this project, Land Trusts in Rhode Island and across New England have a handbook for leasing farmland with a checklist to guide them through the process. Land Trusts and to a lesser extent municipalities in Rhode Island have a greater understanding of the pressing need to protect the state's remaining farmland and its importance for growing specialty crops that provide fresh, health food for the community. Land Trusts, municipalities and the state have a growing awareness about the importance of agriculture and specialty crops to the state and municipal economy. Thus, some land trusts are more focused on protecting farmland and land trusts that are protecting farmland are doing so with a better understanding of how they need to craft the conservation easement to support working farms. This project has helped contribute to the increased understanding of land trusts through workshops and the handbook on leasing.

Related information from the Council's broader agriculture sustainability initiative (FarmRI 2.0 report, farmers' market flyer and Agriculture in RI video) have also increased awareness of these issues. Land trusts directly benefited by from this project by having their leaders attend the workshops and obtain the handbook for leasing farmland. Two land trusts are working with the Council to move their farmland toward more productive agriculture uses with specialty crops. Other land trusts are leasing farmland they have protected for vegetables and other specialty crops. One land trust is leasing land to a farmer who is growing the ingredients he needs for making and selling salsa.

2nd. Farmers - Farmers are benefitting from this project and that benefit will increase over time. The initial benefit is the increased awareness and understanding that land trust leaders have of farmer's issues and perspective. Thus, the land trust leaders are more willing to work with farmers on leasing arrangements that keep agriculture sustainable. Over time, farmers will have access to more farmland for specialty crops as land trusts shift land out of hay and traditional crops. Further, as land trusts acquire new parcels of farmland, they will have a better understanding when developing a lease with the farmers. The most affordable farmland in Rhode Island for specialty crops is leased protected lands. Thus, in the future, the best opportunities for young farmers starting specialty crop operations will be able to lease land from land conservation organizations.

3rd. Communities – Communities will benefit from this project's role in increasing attention to protecting farmland with an eye to using conservation easements and leases that support sustainable agriculture. As mentioned earlier, the greatest demand for land for agriculture in Rhode Island is for growing vegetables and other specialty crops. Agriculture is contributing to state and municipal economic growth and working farms enhance the quality of life for community residents.

Lessons Learned

The Council began this project with the expectation that we would find land trusts with farmland that wasn't in production and the need to connect land trusts with farmers. We learned that many land trusts protect farmland and that most have that farmland in production. In most cases, land trusts "inherit" a farmer and a "legacy" for how the farmland they acquire is being managed. This history is one key barrier to having protected farmland in the most productive uses. We also learned that specialty crops were being grown by farmers who are leasing many land trust properties.

We learned that municipalities own many farms and that some of these are being leased for specialty crop production.

We learned that many land trusts have protected land that had been historically in agricultural production but was covered by invasive shrubs and young forests when the land trust acquired these properties. While there is federal funding to support land trusts' clearing these properties for early succession wildlife habitat, there is no support to land trusts or farmers for clearing land for agricultural production.

We also learned that there is no support for land trusts or other organizations that own farmland to help them understand the best agricultural use of their properties. Further, there is no support to help these organizations negotiate and draft leases with farmers for use of their farmland.

As a result of this project, more land trusts are focusing on protecting farmland and putting the farmland they own into more productive use for specialty crops. We anticipate this trend will increase over the next couple of years as land trusts are able to adjust management on land that they have owned. Some of the farmland that land trusts lease will be used by new farmers growing vegetables and other specialty crops. Thus, the number of farmers growing specialty crops will increase over time as a result of this project. Further, land trusts will be using conservation easements and leases that are more friendly for farmers and sustaining agriculture on the land that is being protected. The developing land link programs may help land trust connect with farmer looking for places to grow nut trees and other specialty crops that have greater compatibility with land trust's other missions and culture. Chestnut orchards are an early adoption of this practice.

Additional Information

Attached to this report is:

1. Handbook for land trusts, municipalities and institutions for leasing farmland to farmers. (Note: this handbook includes the checklist but does not include the models that accompany the handbook.) A version of this handbook will be available on the Land For Good website as well as RI Land Trust Council website in the future when it is polished and formatted for publication and wider distribution.

Rhode Island Farm Viability Specialty Crop Grant Norman Bird Sanctuary Final Performance Report 12-25-B-0947

TITLE: The Rainbow Garden Project

Project Summary

The Norman Bird Sanctuary launched the Rainbow Garden Project, an initiative to interest children in gardening with a goal to inspire Newport County children and residents to learn organic gardening and sustainable gardening practices.

The Rainbow Garden provided an opportunity to both enhance our educational programming and offset the expense of food costs for our animals. The Norman Bird Sanctuary

is home to over twenty education animals, including mammals, reptiles, amphibians, invertebrates and birds of prey.

The animals, known as “animal ambassadors,” are a critical component of the NBS education programs, and are routinely featured during on-site fieldtrips and in classroom visits throughout the state. Yearly expenses for each animal are high, with a variety of routine costs including food, housing, equipment, and veterinary care. Many of the animals, including the mammals, invertebrates, and reptiles, are fed fruits and vegetables as a significant portion of their diet.

The Garden participants were involved in designing and maintaining the individual garden beds while growing and harvesting a variety of fruits and vegetables for our educational animals.

Project Approach

The Rainbow Garden Project was designed to allow children to manage and organize *their* garden, nurture an appreciation of and connection to nature, learn about agriculture and food, become active, engaged citizens within their community, and have fun!

The project is housed on the Norman Bird Sanctuary property. Participants from local elementary and middle schools helped to grow produce for the Sanctuary’s Animal Care Program.

The gardening team was established with Rachel Holbert, Education Coordinator/Naturalist at the Norman Bird Sanctuary, as the director of the initiative. Other team members included NBS staff, Americorps and Volunteers. The planning process included garden design, outlining the beds, plant selection, enclosure materials, and acquiring tools and supplies.

Goals and Outcomes Achieved

Goal: Plan and Install Gardens

Outcomes: The Rainbow garden was placed behind the NBS Welcome Center and near our Chicken House. The initial dimension was 45’ x 50’ that was enclosed by a temporary wire fence. The weeds and grass were removed, soil prepared, and finally, the planting of seeds or plants.

In 2011, The Rainbow Garden was expanded from 45 ft. by 50 ft. to 70 feet at its longest dimension and was redesigned to include an open teaching space, a native plant butterfly garden, fruit, vegetable and herb garden, our animal care garden and a Native American garden. In addition, a new split-rail fence has been installed around the entire garden with accompanying “chicken wire” to deter deer and other wildlife from entering the garden.

Goal: Develop and facilitate an educational garden program for children.

Outcomes: The Rainbow Garden Kids Club was established and led by our Education Coordinator, Rachel Holbert. In 2010, from April 10th through October 23rd, Rachel offered bi-weekly programs for children in the garden. During these programs, participants learned about gardening, had the opportunity to plant seeds and seedlings, learned how to distinguish garden plants from weeds, and were introduced to organic gardening practices, overall garden health, and how to properly maintain gardens.

In addition to gardening topics, Rachel also reviewed the water cycle, the importance of native plants, insect anatomy and common garden insects, and she took advantage of educational opportunities provided by incidental animals visits to the garden such as painted turtles and rabbits.

The Rainbow Garden Kids club had seven (7) children that participated in helping out with their garden. In addition, there were four (4) adult volunteers that donated their time weekly to help with weeding.

Goal: Plant and harvest specialty crops to feed the NBS animals.

Outcomes: The Rainbow Garden provided approximately seventy percent (70%) of the produce required for our animal care program. Included in our garden plantings were the following specialty crops:

- Cucumbers
- Lettuces
- Spinach
- Peppers
- Strawberries
- Squash
- Pumpkins

Specialty crops such as fruits and vegetables are a significant portion of their diet. Our animal ambassadors include mammals, invertebrates, and reptiles:

2-Red-tailed Hawks (*Buteo jamaicensis*)
1-Barred Owl (*Buteo jamaicensis*)
1-Ball Python (*Python regius*)
2-Corn Snakes (*Elaphe guttata*)
1-Red-eared Slider~(*Trachemys scripta elegans*)
1-Painted Turtle*(*Chrysemys picta*)
1-Bearded Dragon (*Pogona vitticeps*)
1-Central American Wood Turtle (*Rhinoclemmys pulcherrima*)
1-Ornate Box Turtle (*Terrapene ornata ornata*)
1-Wood Frog (*Rana sylvatica*)
1-Cuban Tree Frog (*Osteopilus septentrionalis*)
1-Lionhead Rabbit (*Oryctolagus cuniculus*)
1-Dutch Rabbit (*Oryctolagus cuniculus*)
2-Fancy Rats (*Rattus norvegicus*)
3-Madagascar Hissing Cockroaches (*Gromphadorhina portentosa*)
1-Mexican Red-kneed Tarantula (*Brachypelma smithi*)

In addition, we established a system for composting scraps in the animal care facility.

Problems and Delays

The greatest challenge that we faced with regard to the Rainbow Garden was that of irrigation. The garden was placed in the lower field, adjacent to the NBS Welcome Center, and while the building has water access, we were limited to watering our garden with an extended hose. In the future, we hope to secure funding to establish an underground drip irrigation system, to alleviate this issue.

An additional problem was not having enough people to work and maintain the garden throughout the season. Weeding was particularly difficult, and not always the favored activity of our gardeners and volunteers.

And finally, attendance was not as high as we had hoped, and the age group that did attend was young and not ideal for gardening and maintenance.

Future Project Plans

For the 2011-12 academic years, the garden will be a focal point for a number of NBS educational field trips including:

- *Native Ways* - which takes students on a cultural journey back in time as they examine what life was like for the Native Americans that inhabited Aquidneck Island, including how they grew their gardens
- *What's Bugging You* which introduces students to insects, spiders, and other invertebrates and the habitats where they live. Students will explore the garden for these spineless wonders.

In the spring of 2012, NBS will also offer an afterschool gardening series for the Martin Luther King Jr. Community Center. Onsite garden programs will include a series of family workshops to be offered monthly between May and November 2011. Workshop topics will feature:

- Organic Gardening 101
- Irrigating Responsibly
- Companion Planting
- Native Plants and Backyard Habitats
- Winter Preparation for your Garden
- Garden Grub: An Outdoor Cooking Class

Beneficiaries

All educational offerings at NBS are individually tailored to meet state science frameworks and the Guidelines to Excellence in Non-formal Environmental Education; programs are designed to increase environmental literacy and promote stewardship through service learning, volunteer projects, and hands-on action opportunities.

The benefits of environmental education at all stages of learning are well-documented. A study completed by the State Education and Environment Roundtable noted that the benefits of using the environment as an Integrating Context for student learning include:

- Better performance on standardized tests
- Increased self esteem
- Reduced discipline problems
- Increased enthusiasm for learning

- Greater pride and ownership in accomplishments

EE also fosters a community and civic responsibility by developing environmental literacy. Environmental literacy is defined by an individual who possesses knowledge about the environment and issues related to it, and who is capable of and inclined towards responsible environmental behavior. Environmental literacy encompasses all five objectives of environmental education – helping learners to gain awareness, knowledge, appropriate attitudes, citizen action skills, and, finally, the motivation to become active, engaged citizens within their community.

At least 30 children per year are expected to regularly participate in the Rainbow Garden project, with several hundred more involved through additional school, camp, and public programs. The program is multidisciplinary: among other skills, students will practice math skills as they conduct measurements, learn biology as they study the life cycles of plants, and delve into writing and art as they chart their project in weekly nature journals. Each child will also gain valuable experience working as a team to set and accomplish shared goals. Perhaps most importantly, the sustained connection to the environment and animals will help to increase learners' interest in gardening and other outdoor activities, and will provide active learning opportunities in the natural world.

Lessons Learned

Whereas the garden did have some problems and delays, it was and remains a very successful part of the Norman Bird Sanctuary. We have a greater number of people working in the garden now, and are implementing educational programs and public workshops that reach out to a greater diversity of people. We're also using weed cloth now and have alleviated some of the minor logistical problems we had with the early garden.

Funding Expended to Date

All funds have been expended.

Rainbow Garden Project	DEM/ USDA Spec. Crop	NBS	Donations/In Kind	Total
Tools & Equipment	500.	1300.		1,800.
Plants	400.	300.		700.
Mulch	500.			500.
Teacher/Naturalist		800.		800.
Lumber, Fencing		1,000	1,500.	2,500.
Seeds, organic compost fertilizer	600.	200.	400.	1,200.
TOTAL:	\$2,000.	\$3,600	\$1,900.	\$7,500.

Conclusion:

In conclusion, the Norman Bird Sanctuary remains every grateful to the Department of Environmental Management and USDA Specialty Crop Program for funding our Rainbow Garden project. Your generous support has allowed us to expand and update our garden programs as we strive to provide opportunities to learn about organic gardening, growing food locally, and sustainable gardening practices.

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Project Title

RI. DEM GET FRESH BUY LOCAL Campaign Final Report

Project Summary

This program was built on the previous projects and enhanced our commitment to increase demand and consumption of RI Grown Specialty Crops. Our motivation was to enhance the marketing of Fruits and Vegetables in the State for over 100 farmers. This was needed to help slow down the loss of Agricultural Land to development by making farming of Specialty Crops viable in Rhode Island.

The Rhode Island Division of Agriculture working with specialty crop growers throughout the state expanded on its "Rhode Island Grown Take Some Home" buy local initiative by conducting produce preparation demonstrations featuring local celebrity chefs at all RI farmers market and participating roadside stands. The Division also updated its RI Agricultural Display. We also used grant funds on marketing projects with Harvest New England which is a multi-state project consisting of the six New England States in a joint effort to capitalize on the local grown effort into the retail trade, namely the large supermarket chains operating throughout the New England region. The Division also uses SCGF to enhance its marketing program by making point of purchase advertising material available to farmers. The need for this project is to help keep Specialty Crop Farming Viable in Rhode Island. Since Rhode Island has such a short growing season it was critical for us to get Specialty Crop Farmers (Fruit and Vegetable Growers) the logo material.

Project Approach

By expanding our marketing efforts by purchasing a display and doing shows throughout the State we increased demand for RI Grown Specialty Products (fruit and vegetables). We also expanded our farmers' market program by introducing wireless EBT technology into two additional markets. At the market we increased sales for Rhode Island Specialty Crop Farmers. Also our support in the Harvest New England Program expanded our sales by promoting a regional supply of fruit and vegetables.

Our partnership with Rhode Island Specialty Crop Growers has served over 300,000 Rhode Island residents by bringing the locally grown fruits and vegetables. Working with over 40 farmers markets we have increased outlets for the sale of locally grown Specialty Crops. Fruit, Vegetables, Nursery Stock and Honey are now in demand more than ever.

In interviewing farmers we have seen a 5% increase in sales of Specialty Crops over last year. We interviewed 50 Specialty Crop farmers at farmers markets and asked if they have seen any increase in sales due to our marketing efforts.

To ensure Specialty Crop Funds were only used for Specialty Crops the DEM/Division of Agriculture contributed over \$50,000 dollars of State funds to cover non Specialty Crops that have benefited from this program. Over 80% of the Agricultural Crops sold in RI are Specialty Crops.

Goals and Outcomes Achieved

By expanding our marketing efforts by purchasing a display and doing shows throughout the State we have increase demand for RI Grown Products. Also by expanding our farmers' market program and introducing wireless EBT technology into the markets we have increased sales for Rhode Island Farmers. These sales were documented by bank statements showing sales of fruit and vegetables that were processed through the EBT machines. There was sales of \$7,000 processed on the EBT machine for Specialty Crops. We also measured the increase sales of RI Grown Specialty Crops by speaking and surveying farmers to see if their sales have increased. We know as in the past informing the public about RI Grown Specialty Crops increases demand for such products.

EBT Program was supplemented by 20% of State funds to compensate for the sales of non Specialty Crop items. It has been determined that 20% of products being sold at our farmers markets are not Specialty Crops.

The goals we achieved for the season are:

- Set up EBT systems at 2 farmers markets
- Re-Certified 30 farms for GAP compliance for sales to school districts
- Had cooking demonstrations at farmers markets throughout the season at 10 farmers markets over 6000 people learned how to prepare fresh fruits and vegetables. This was a partnership we have with Johnson and Wales University that is very popular.
- Gave out information to 45,000 citizens promoting RIGrown at shows
Point of purchase material is critical to educate the public as to what products are RI Grown Specialty Crops. These point of purchase materials also let the farmer help customers identify which are Rhode Island Grown Specialty Crops. We will measure the outcomes of our actions through the surveying of farmers to see if our efforts have increased demand for their products.
- Of the 50 Specialty Crop Farmers Surveyed. All responded that our efforts have helped them in some way to stay viable as a Specialty Crop Grower in RI. They all have seen an increase in sales.
- We held Agriculture Day at the Rhode Island State house May of 2011 and over 35 Specialty Crop Farmers were able to give out information about the crops they grow and where their establishments are located. Over 2000 people attended the event. There was also a proclamation from the Governor for Agriculture Day in Rhode Island.

-2011 Harvest New England Conference:

The Harvest New England Ag Marketing Conference and Trade Show: the Expanding New England Farm Enterprise, Reaping More From What We Sow, took place on March 1-3, 2011 at the Sturbridge Host Hotel in Sturbridge, MA. 421 Farmers attended the conference, 392 of which were specialty crop farmers.

-54 Scholarships were awarded to specialty crop farmers to attend the HNE Conference. The scholarships allowed the specialty crop growers the opportunity to attend the conference in its entirety to learn how to better market and sell their specialty crops. Without the scholarships provided by HNE 55 specialty crop farmers would have been unable to attend otherwise.

-A page of the HNE Conference program was dedicated to the promotion of the HNE logo. It outlined who could use it, where to download a copy, and a brief outline of how to use it.

-50% of the survey respondents said that on a scale of one (the lowest) and five (the highest) that their knowledge of how to market their specialty crops was a four (very well). While we didn't achieved the number of specialty crop producers we were hoping for (392 vs 550) we were able to award more scholarships than originally planned.

-Harvest New England Website:

The HNE logo was made available for download in three formats on the HNE website. A disclaimer was added to the page and the form requiring basic contact information is currently being developed. The number of HNE logo downloads is currently be investigated.

-Spec Sheets for the HNE Logo:

The spec sheets are also in progress. Once completed they will be added to the HNE logo page on the HNE website.

-Light Post Banners at the Big E:

The light post banner project is complete. The banners were present at the 2011 Big E at the Eastern States Exposition in West Springfield, MA from September 16 - October 2, 2011. This project was originally intended to be completed in 2012. HNE chose to move forward with this project since various opportunities presented themselves. We exceed our goal of 12 banners by having 28 banners developed and displayed on the Avenue of States during the Big E.

-OUR MARKETING EFFORTS HAVE LEAD AGRICULTURE TO BE THE ONLY SEGMENT OF THE RHODE ISLAND ECONOMY THAT IS PROSPERING.

Beneficiaries

The beneficiaries of the project are all the citizens of Rhode Island and Specialty Crop Farmers. Our efforts have increased the availability of fresh fruits and vegetables for the citizens of Rhode Island.

Lessoned Learned

We have learned that marketing of Fruits and Vegetables and other Specialty Crops is critical to increasing sales and keeping farming viable in Rhode Island

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